CRASH

ZX SPECTRUM

NEWSFIELD PUBLICATION
NO. 54 JULY 1988
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WITH
CASSETTE

THE EMPIRE STRIKES BACK

Domark return in style

EXTRA CASSETTE!!

FEATURING
DARK SIDE
from INCENTIVE
and
LAST NINJA 2
from SYSTEM 3

IF YOUR CASSETTE IS NOT ATTACHED TO THE FRONT OF THE MAGAZINE ASK YOUR NEWSAGENT FOR

THE CRASH SNEAK PREVIEW TAPE

WHERE TIME STOOD STILL

Ocean remember the land that ti...

Take your Spectrum to a new dimension

DARK SIDE

Ah... ADDICTED?

Find out inside . . .

SKATE CRAZY

Gremlin get street cred!

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Disney delights

MICKEY MOUSE

SKIING LESSONS from EPYX
A TV/VIDEO UNIT from INCENTIVE
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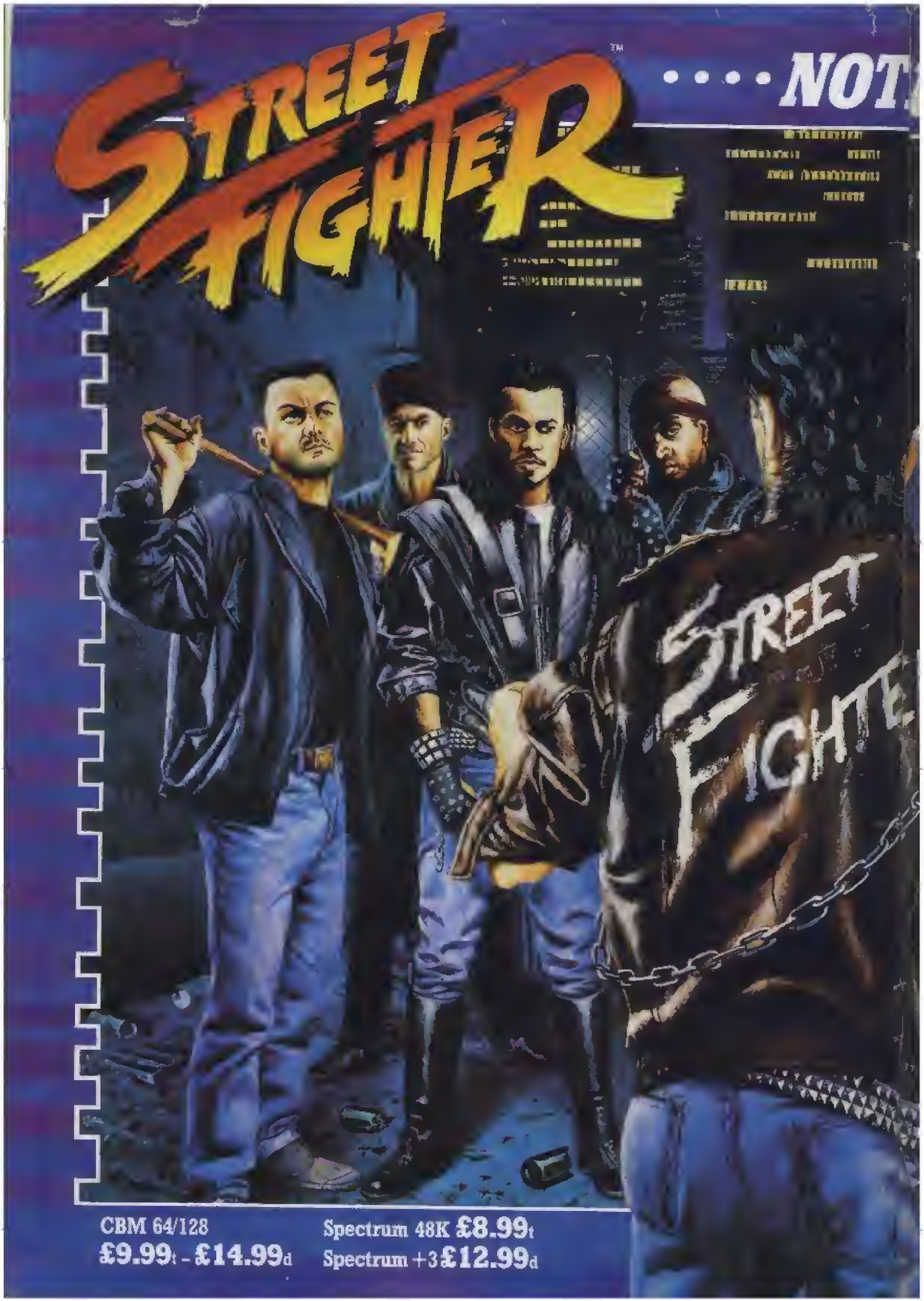
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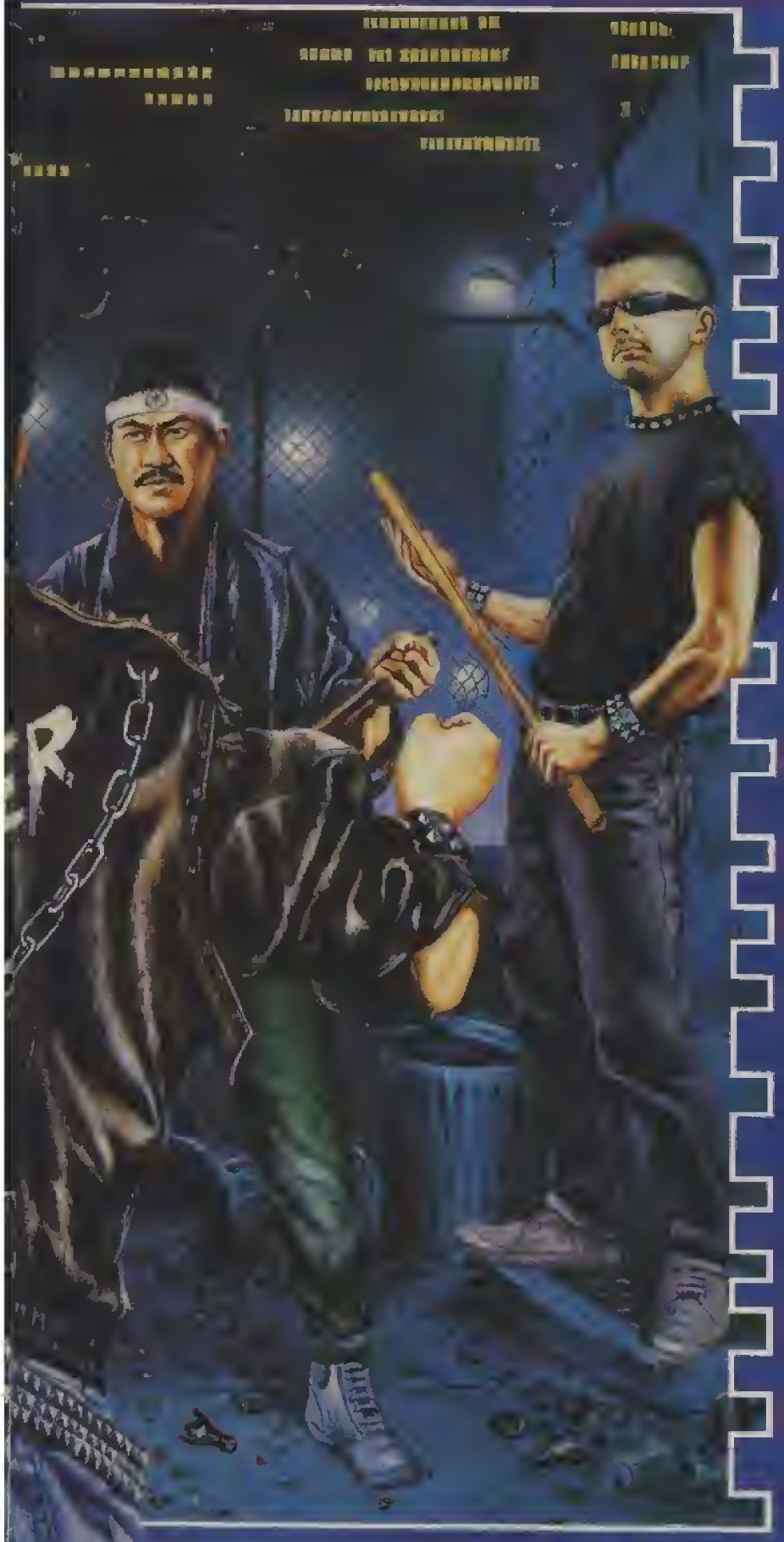

Screen shot from Spectrum version.

Screen shot from Amstrad version.

Screen shot from CBM 64/128 version.

Screen shot from Atari ST version.

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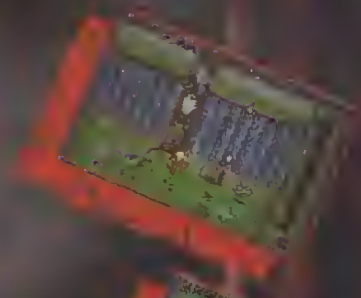
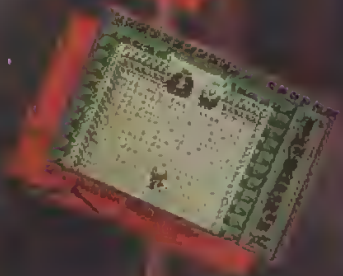
SMASHING IT'S WAY TOWARDS YOU!



Based on Sega's superb Halls of Kairos coin op game you must free those held captive by the great Satan, KAIROS, himself. Punch down the doors and explore the maze of halls and passageways that hold the key to extra energy and speed. Release those held captive behind vast mirrors and see yourself transform into an invincible fighting warrior. Watch out for the deadly henchmen, avoid the fireball hurling witches punch the fire breathing deer's head and watch your enemies disappear. Alone in battle you must enter the mysterious and supernatural world of Kairos. DETERMINATION. DEFIANCE. DESTRUCTION... THAT'S..



DESOLATOR

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CRASH ZX SPECTRUM CONTENTS

FEEL THE FUTURE WITH YOUR EXTRA SNEAK PREVIEW TAPE

Play the games that will be hitting the streets in months to come. There's fighting fun with *Last Ninja 2* from System 3 and a great competition in *Dark Side* from Incentive. More details on page 8. You don't know what you're missing. Load it NOW!

ARE YOU ADDICTED?

Mel 'The Magnificent' Croucher starts a new and irregular feature looking at the darker side of computing in the Eighties. The first in the series takes a look at the terrifying statistics of computer game addiction. In the UK alone, over three million pounds is slotted into arcade machines EVERY day. Addiction often starts at home; are you becoming one of the unfortunate many?

Find out on page 97

DO IT YOURSELF

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. . . and you can come too!

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ISSUE 55 ON SALE JULY 28

EDITORIAL *47 Gravel Hill, Ludlow, Shropshire SY8 1QS* ☎ 0584 5851/2/3 **Editor:** Steve Jarratt **Deputy Editor:** Dominic Handy **Assistant Editor:** Katharina Hamze **Staff Writers:** Mark Caswell, Philip King, Lloyd Mangram, Nick Roberts **Technical Writers:** Jon Bates, Simon N Goodwin **Editorial Assistant:** Frances Mable **Photography:** Cameron Pound, Michael Parkinson (Assistant) **Contributors:** Robin Candy, Raffaele Cecco, Mel Croucher, Paul Evans, Philippe Irving, Brendon Kavanagh, Paul Sumner **PRODUCTION** *1/2 King Street, Ludlow, Shropshire SY8 1AQ* ☎ 0584 5851/2/3 **Art Director:** Mark Kendrick **Assistant Art Director:** Wayne Allen **Design & Layout:** Yvonne Priest, Melvin Fisher **Pre-Print Manager:** Jonathan Rignall **Reprographics/film planning:** Matthew Uffindell, Nick Orchard, Ian Chubb, Robert Millichamp **Publishing Controller:** David Western **Editorial Director:** Roger Kean **Advertisement Manager:** Roger Bennett **Sales Executives:** Andrew Smales, Sarah Chapman **Assistant:** Jackie Morris ☎ (0584) 4603 **OR** (0584) 5852 **MAIL ORDER** Carol Kinsey **SUBSCRIPTIONS:** Denise Roberts *PO Box 20, Ludlow, Shropshire SY8 1DB* Typeset by the **Tortoise Shell Press**, *Ludlow* Colour origination by **Scan Studios**, *Wallace Road, London N1*. Printed in England by **Carlisle Web Offset**, *Newtown Trading Estate, Carlisle, Cumbria CA2 7NR* – a member of the BPCC Group. Distribution by **COMAG**, *Tavistock Road, West Drayton, Middlesex*

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COVER DESIGN & ILLUSTRATION BY OLIVER FREY

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CRASH ZX SPECTRUM

OUT WITH THE OLD . . .

The CRASH roundabout continues its merry turn this month with the appearance of a new reviewer: 20-year-old Phil King comes from Glee Hill, 6 miles east of Ludlow. His hobbies include role playing, tickling the ivories (playing the piano to you) and guffawing at Monty Python films while listening to 70s progressive rock, including such fabled groups as Journey, Yes, Rush, Genesis and Wishbone Ash – amongst many others.

Phil managed to gain 'A' levels in economics, pure maths and applied maths (yes folks, he's a smart ass too!). His computing experience is specific to Spectrums, and he owns an antique 48K rubber fetish special. Anyway, he's here to stay – and his reviews can be seen dotted around this very issue.

(Cue trumpet fanfare . . .) It's apology corner again folks! This month's award goes to James Wood of Appleby Associates who claims that the POKE for *Inside Outing* which we published last issue includes a direct copy of their loading system. This is copyright of Appleby Associates and the person in question shouldn't have used it. So hackers please take note: no more ripping off people's code, thank you very much.

After a brief four months at the helm of this legendary organ, it is with regret that I bid you all a fond farewell and leave the post of Editor in the capable hands of Dominic 'erstwhile' Handy. This simply means that as of next month you'll have to read Dom's ramblings instead of mine . . .

So long, and thanks for all the cash.

Steve Jarratt

STEVEN JARRATT

NEXT MONTH IN

CRASH ZX SPECTRUM

ADVENTURE TRAIL EXTRA

INTERVIEWS, FEATURES, REVIEWS AND EXTENDED SIGNSTUMPS!!

- *16-BIT FEATURE* – Just how good are the ST and Amiga?
- *SPLIT SCREEN* – We discuss censorship in software
- *RUN IT AGAIN* – Football strategy games exposed
- *ON THE SCREEN* – The return of pixelated pictures
- *PLUS ALL YOUR FAVOURITE REGULARS*

It's all in Issue 55 of CRASH – the only companion for your Spectrum

ON SALE JULY 28

REVIEWS

Glorious games for JULY

SMASHED!

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You played the prequel, played the preview game, now read the review

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Domark return with this accurate conversion of the coin-op hit

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There's no hanging around in Ocean's latest Smash game

HOT SHOTS 70% and over . . .

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Whether you loved it or hated it, *Football Manager* has a terrific sequel

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Join Code Masters on their worldwide tour

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Freddy the man skates like no one else can . . .

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GO! venture on a mysterious medieval quest – join them

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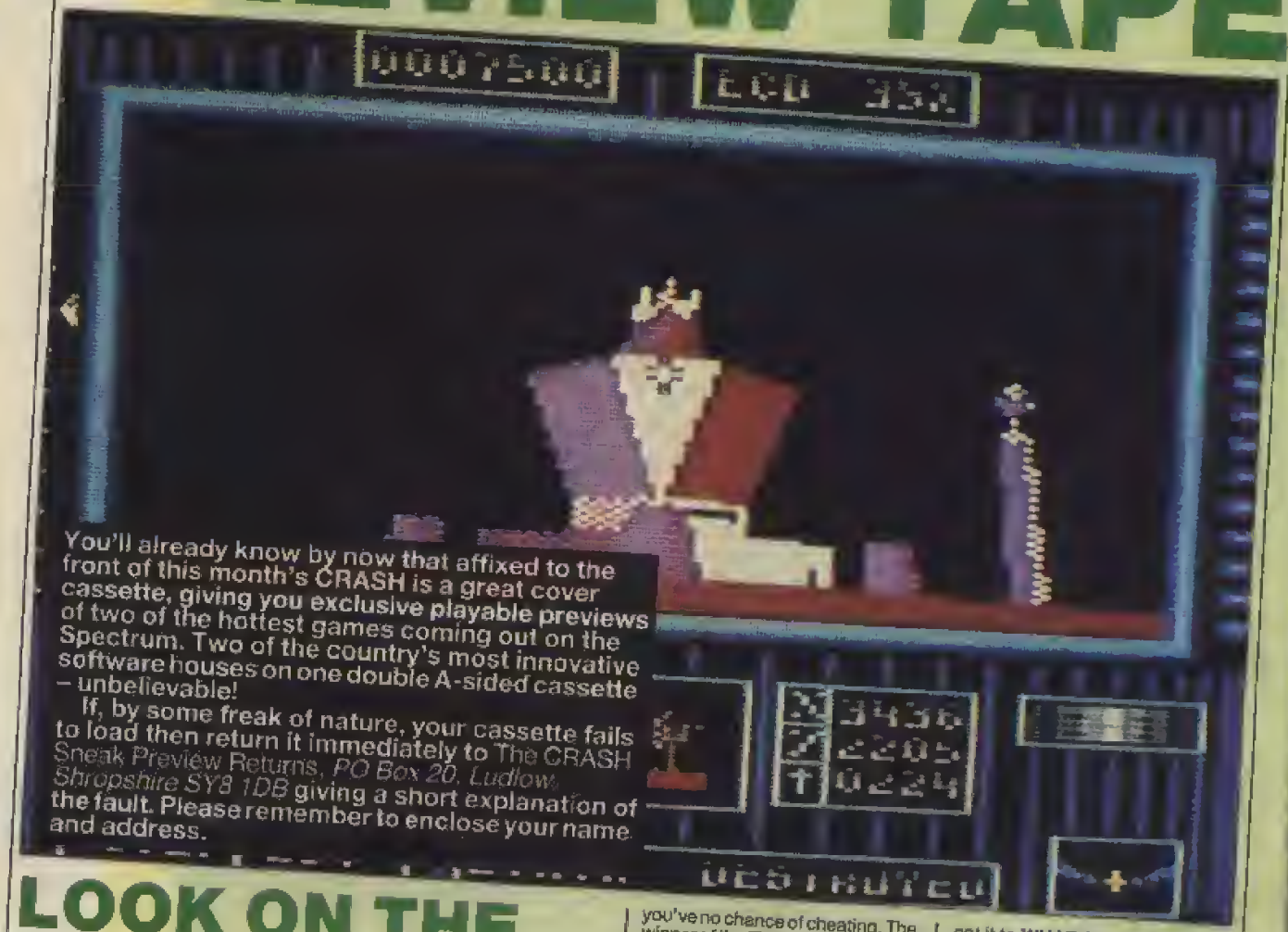
THE SNEAK PREVIEW TAPE



You'll already know by now that affixed to the front of this month's CRASH is a great cover cassette, giving you exclusive playable previews of two of the hottest games coming out on the Spectrum. Two of the country's most innovative software houses on one double A-sided cassette – unbelievable!

If, by some freak of nature, your cassette fails to load then return it immediately to The CRASH Sneak Preview Returns, *PO Box 20, Ludlow, Shropshire SY8 1DB* giving a short explanation of the fault. Please remember to enclose your name and address.

LOOK ON THE BRIGHT SIDE

First there was *Driller* (97%, Issue 47) – it scooped five CRASH Readers' Awards: Best Game, Most Imaginative Game, Best Graphics, Best Packaging, Most Accurate CRASH Review – and now there's *Dark Side*, one of the most eagerly awaited sequels of the year. Journey over (and through!) the moon Tricuspid and knock out the 25 Energy Collection Devices to save Evath from the terrible weapon on the Dark Side of the moon. The finished game of *Dark Side* is eight times the size of your preview game, and contains loads of extra features unavailable on the Sneak Preview Tape. You'll be able to zoom through tunnels and overhead walkways, teleport to the Dark Side of the moon, SAVE and LOAD your game position and even get thrown in jail if the security stalks spot you.

The *Dark Side* demo is, however, a mini game in itself; tasks have to be completed and ECDs can be disabled, thus gaining many points. And points, as they say, make prizes.

Incentive, those kind people from Aldermaston, have challenged the CRASH readership. There is a maximum score possible on the *Dark Side* demo, and all that reach it will have a chance of winning a fabulous **Amstrad TVR2 TV/Video combination unit**. Incentive say that any score over 125,000 is worth sending in. But be careful, all scores MUST be accompanied with a full description of how you gained your mega-score – so you've no chance of cheating. The winner of the TV and video unit will be picked out at random from the top scoring (and legitimate) entries.

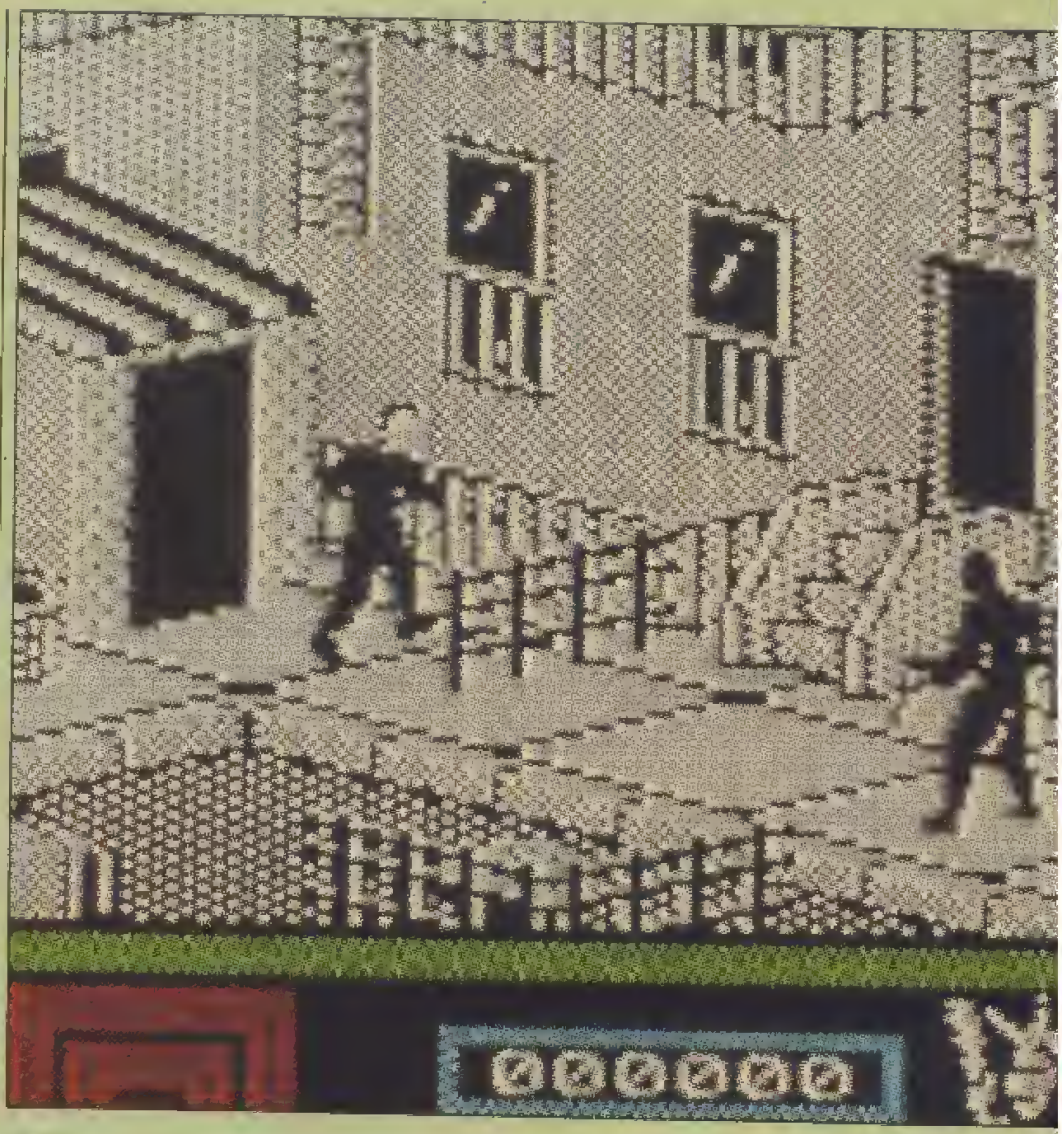
Send your score and how you got it to **WHAT AN INCENTIVE COMP**, CRASH, *PO Box 10, LUDLOW, Shropshire SY8 1DB*. All entries must be received by August 2.

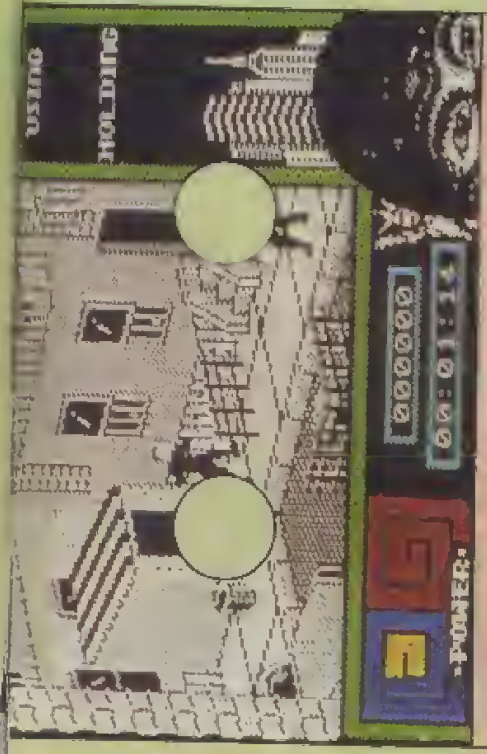
LAST NINJA 2

SYSTEM 3

After mediocre success with *International Karate* at the beginning of 1986 (68%, Issue 24), the Southampton based company stormed the Spectrum market in February of this year with the release of its sequel, *IK+* (91%, Issue 49). *IK+* combined astounding graphics and superb animation with addictive and frighteningly accurate gameplay to produce, arguably, the best martial arts beat 'em up on the Spectrum to date. As you'll see when you load up your Sneak Preview Tape the superb graphics and animation have been carried through to their latest release, *Last Ninja 2*. Close followers of the Spectrum scene will remember the furore over *Last Ninja* just over a year ago. It was planned, advertised and even half written, but due to 'programming difficulties' the (in)famous game never appeared on the Spectrum – and never will. So *Last Ninja 2* is also the first ninja (if you see our meaning)!

Just load up the correct side of your double A-sided Sneak Preview Tape and take a look at the smooth animation and astounding New York backdrops of *Last Ninja 2*. In the finished version your player moves around in eight different directions and can carry out a large range of martial arts manoeuvres. You also have a whole array of oriental weapons – load up the preview tape and you'll see what we mean . . .

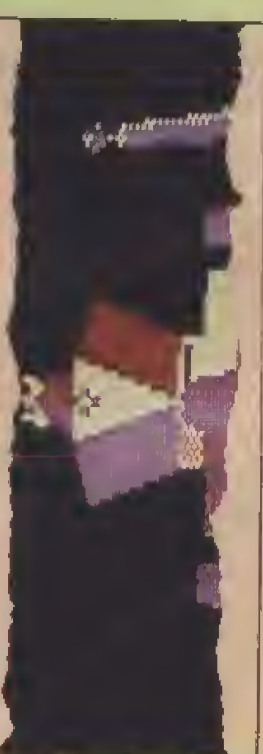




THE CRASH SNEAK PREVIEW TAPE

LAST NINJA 2 / DARK SIDE

THE CRASH SNEAK PREVIEW TAPE



LOADING INSTRUCTIONS

Connect a suitable cassette recorder to your Spectrum. Rewind your Sneak Preview Tape to the beginning. Type LOAD "" on your Spectrum and press ENTER. Press PLAY on your cassette recorder.

For more information consult your Spectrum manual.

CONTROLS

LAST NINJA 2

System 3

A full listing of controls is given upon loading.

DARK SIDE

Incentive

Forward/up	O
Back/down	K
Left	Q
Right	W
Fire	0
Look up	P
Look down	L
Tilt left	N
Tilt right	M
U-turn	U
Increase angle	A
Decrease angle	Z
Increase step size	S
Decrease step size	X
Rise vertically	R
Fall vertically	F
Interrupt	I
Jet-pack on/off	J
Sights on/off	B
Movement/attack mode	SPACE

See CRASH Issue 54 for more details

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ocean

THE RACE AGAINST TIME

Producer: **Code Masters**
Retail price: **£4.99**
Authors: **The Oliver Twins**

In September, The Race Against Time, a 10km fun run, will take place simultaneously all over the globe. As he did for Sport Aid '86, the Sudanese athlete, Omar Khalifa, will be carrying a symbolic torch from an African Relief camp fire to the United Nations in New York. Code Masters' *The Race Against Time*, profits from the sale of which go to Sport Aid '88, simulates his proposed journey around the world.

To gain as much support as possible, Omar's aim is to raise a flag and light a flame in a bowl on each of six continents within a time limit of five hours. Beginning in Sudan, he moves around the world using an intercontinental network of airports. Guiding an aeroplane cursor over a world map automatically takes Omar to the appropriate country.

Each of the six continents is divided into a series of horizontally scrolling national scenes. Trees and scrub melt into well-known national landmarks such as Mount Rushmore, the Kremlin, the Sydney Opera House and Buckingham Palace. A series of transporter arrows allows freedom of movement between more distant areas.

Each continent has its own particular hazards, such as collapsing bridges, falling bricks and moving rafts. Water and rain must be avoided at all costs: if the torch is extinguished or the allotted time runs out, the mission prematurely aborts.

Certain obstacles can only be countered using objects found along the way. Ranging from spanner to sandbag, these prove very useful when dropped in the appropriate place. Collecting hourglass icons also boosts the amount of time available.

Status displays show score, objects currently being carried and the countdown timer. As a flag is raised or a flame ignited, an icon at the top of the screen lights up – one further step towards the United Nations building and the culmination of Sport Aid '88.

KATI

"Omar Khalifa runs his epic race against an extremely attractive background of colourful, detailed landmarks. Apart from a ubiquitous type of leafy tree, which has the ability to survive in every type of global climate, each nation has its own distinctive characteristics. Negotiating the world successfully depends on a combination of adept footwork and systematic thought. The puzzles themselves aren't overwhelmingly difficult – just hard enough to keep you going back for more. Exploration and analysis must be carried out with care; dither too long in one place, get lost in one of the more labyrinthine systems of arrows and before you know it, time has run out. Presentation is polished and scrolling smooth. Even the computerised version of *Games Without Frontiers* sounds something like the original. On the whole, an original, playable and compelling game. Considering where the money goes, a very worthy purchase."

82%

PAUL

"I have never seen such self promotion in all my life. It's no wonder Code Masters were the first software house to jump on to the Sport Aid bandwagon – there's so much self gratification that it's almost impossible to find out how to play the game. But it's all for a good cause, as they say. Most of the claims made on the inlay are a bit over the top (are all of the 100 screens really 'amazing'?), but the game does claim to be appealing to non-computer experts, and I would have to agree. The Race Against Time is a very simple memory game – just remember where all the objects are and where to use them and you've reached the objective. Getting from one location to the other presents no difficulty whatsoever, so once the game is completed your £5 is all used up. After playing it for a few hours I reckon that situation could occur pretty quickly. Simple fun for a good cause, though."

70%

▶ Is that the Darling Brothers and the Oliver Twins carved in stone?

NICK

"This game makes a welcome change from the usual Code Masters products. The word simulator is nowhere to be seen, just the many wonderful sights of the world all packed into one cassette box. Each screen is full of detail, with places such as Buckingham Palace and the Sydney Opera House around every corner. Colour has been used well with the minimum amount of clash, but the sound is just the usual raspy Code Masters sound effects and a Peter Gabriel tune. I really enjoyed running around the world, torch in hand, solving all the little puzzles and discovering what to do with the various objects. The Race Against Time is just good clean fun with the added bonus of your money going towards a good charity."

80%

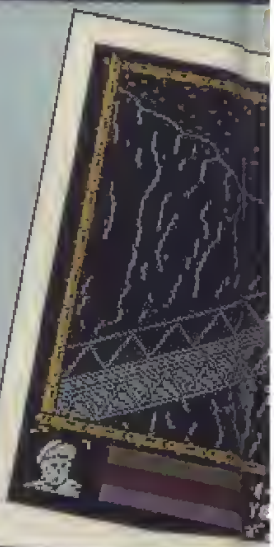
COMMENTS

Joysticks: Kempston, Sinclair
Graphics: a wide range of colour, but strongly 2-D backgrounds. Colour is liberal, but doesn't create too many clashes
Sound: usual raspy effects, with a good translation of Peter Gabriel's *Games Without Frontiers* as the (rarely heard) title tune
General rating: an unusual and attractive approach to the world famine problem

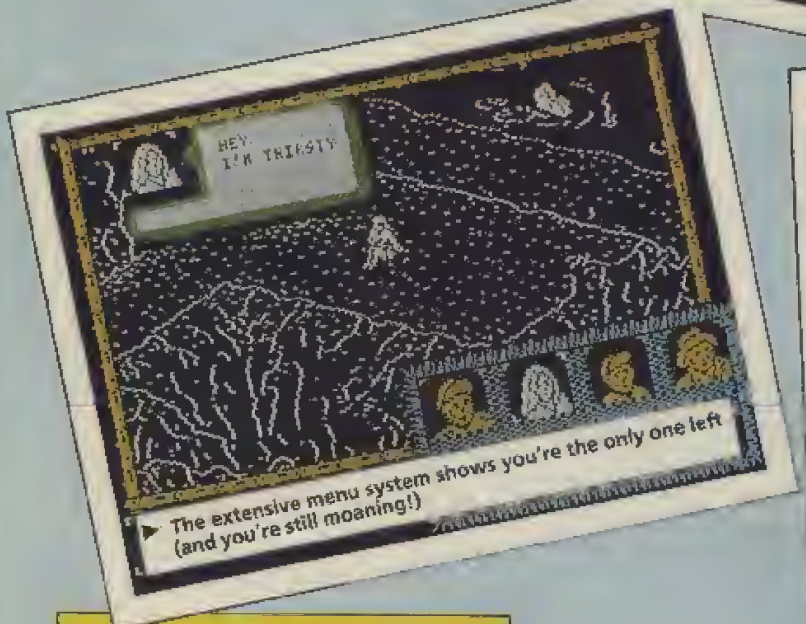
Presentation	84%
Graphics	73%
Playability	75%
Addictive qualities	78%
OVERALL	**79%**

W·H·E·R·E T·I·M·E

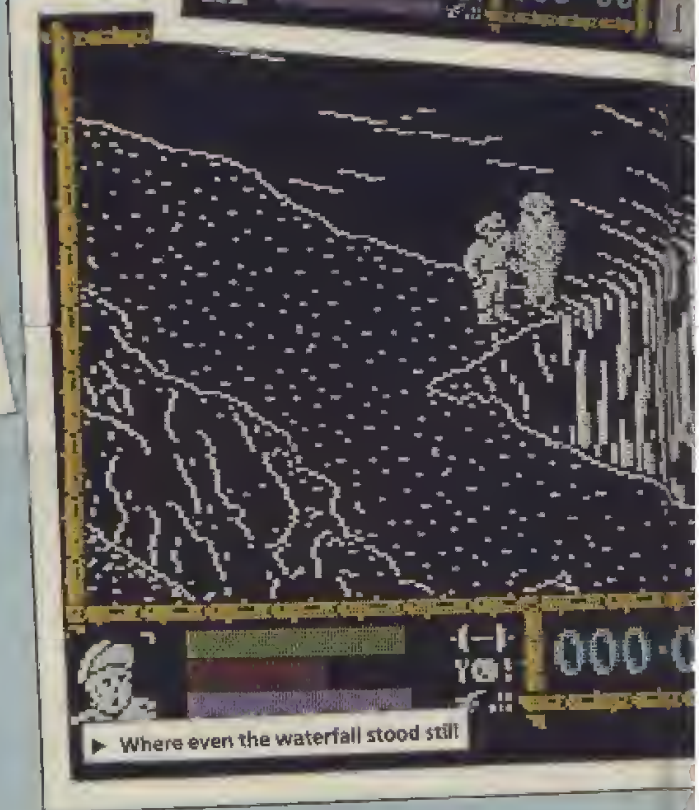
▶ Our four intrepid travellers begin their quest for freedom



▶ Don't do it! Life's not that bad



▶ The extensive menu system shows you're the only one left (and you're still moaning!)



▶ Where even the waterfall stood still

Producer: Ocean
Retail price: £7.95 cassette, £14.95 disk
Authors: Denton Designs

S·T·O·O·D S·T·I·L·L

A CRASH Smash

A plane crashlands high on a mysterious plateau. Miraculously, all three passengers (fat and wealthy Clive, his daughter Gloria and Dirk, her fiance) manage to clamber out of the wreckage alive. As Jarret, professional pilot and guide, looks around, he realises that their journey has only just begun. Trapped in a world of falling rocks, dinosaurs, and hungry cannibals, they have no option but to try to reach safety on foot.

Taking the part of Jarret, you attempt to lead your companions away from the scene of the wreckage through a four-way scrolling, isometric perspective environment of swamps, precarious pathways, waterfalls and forests. Allowing Jarret or one of his companions to fall off a cliff, into water or through the rotten slats of a rickety bridge, results (unsurprisingly) in severe injury or death. Should Jarret die, the player chooses a new leader from the members of the party left alive.

The inhabitants of this strange and distant land prove a constant threat. Sea monsters flex their elastic tentacles, cannibals hurl spears and pterodactyls swoop in from above, ready to carry unwitting victims high into the prehistoric sky.

Helpful objects, ranging from gun to first aid kit, are scattered around the plateau. A menu system allows these to be picked up, used and moved around. Each of the characters has his or her own inventory and is capable of carrying up to four objects.

A series of status bars shows the company's collective state of health in terms of strength, hunger/thirst and ammunition. As their stamina begins to drop, the characters, communicating through speech bubbles, begin to complain. Giving them supplies and an opportunity to rest, boosts energy. Allowing the health rating to fall to zero causes the party to die of exhaustion.

As the journey continues, a calendar shows the changing date and indicates the passage of day and night. How long the party survives depends on the success of its leader. If Jarret makes little progress, his companions become disillusioned and begin to wander off on their own. If he succeeds in navigating the treacherous plateau he and his companions might just make it back home.

" Where Time Stood Still is an ingenious concept perfectly executed. The 3-D environment creates an eerie, otherworldly atmosphere intensified by the realistic treatment of the plateau's natural hazards. Walk without care and you could be hurtling down the edge of the next precipice or sinking unexpectedly into the arms of a slithering, slimy squid. Each member of the expedition has his or her own clearly defined characteristics: little Gloria is far less delicate than she looks and fat Clive is always hungry. What makes this animated adventure so exciting is its element of unpredictability. You can take every possible precaution, but whether Dirk or Clive get carried away in the bony claws of a pterodactyl is still mostly a matter of luck. It's a pity that there's no save game option (a chance to behave totally recklessly without fear of the consequences) but I suppose in the quest to survive you only get one chance. Don't just stand there - go out and buy! "

KATI **95%**

" The first thing that strikes you about Where Time Stood Still **is the detail in the 3-D landscape. This graphical quality is reminiscent of** The Great Escape **(also from Ocean). The scrolling is a bit sluggish at times but it's not surprising considering the amount of detail on the screen. There's a good in-game tune which becomes irritating after a while; fortunately it can be switched off in favour of sound effects. Where the game really scores highly is in the marvellous atmosphere it creates, totally absorbing the player in the action. The landscape is very large with many different features such as falling rocks, a swamp with a monster in it, and a waterfall. The various dinosaurs are well animated and quite scary when they suddenly appear to whisk off one of the characters. There are also some wonderful spear throwing natives and even a hand which pokes through a hole in the rocks to push you off the ledge. This is one of the most absorbing games ever – it's a classic! "**

PHIL **87%**

" I haven't enjoyed playing a game so much for ages. Where Time Stood Still **is an instantly playable, 3-D adventure that will keep you glued to your TV screen for months to come. All the graphics are detailed and clear with excellent backgrounds and well designed characters. As you progress through the game you find surprises around every corner (some not very pleasing ones either!) which makes the game even more addictive. The dinosaurs that roam around the landscape add an element of excitement and the cannibals will soon get you running! The use of menus to pick up and drop objects is a good idea as it stops the screen being cluttered up with useless information, but which menu does what is a little confusing at first. Just to give you an idea of how big the game is, it takes up 120K of my +3 – and that's big! If you buy** Where Time Stood Still **it will give you endless enjoyment for months to come**

NICK **92%**

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: isometric perspective landscape, with superb characters and animation
Sound: a bearable tune burbles along which can be toggled for some atmospheric spot effects
Options: redefinable keys
General rating: a thoroughly engrossing arcade adventure

Presentation	93%
Graphics	93%
Playability	95%
Addictive qualities	94%
OVERALL	**94%**

SKATE CRAZY

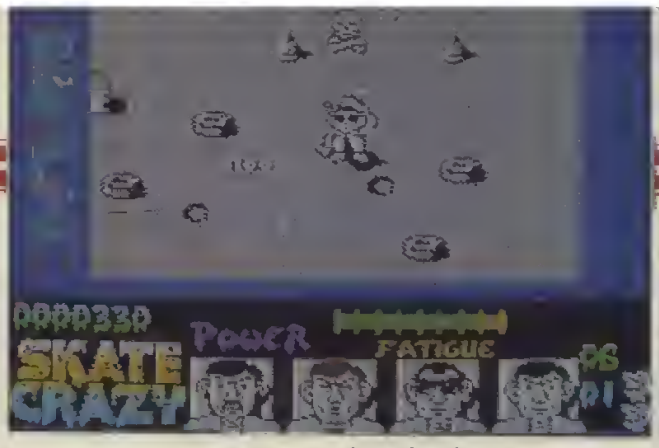
Producer: **Gremlin Graphics**
Retail price: **£7.99 cassette, £12.99 disk**
Authors: **Tim Miller, Kevin Bulmer and Jon Harrison**

Freddy is showing off down town in a thoroughly posey bid to gain the coolest, trendiest reputation for street cred in town. Flaunting his designer roller skates and flashing his ultra-dark shades, he's all set to take the stage by storm.

This command performance takes place over four multi-loaded levels (played in any order) in one or two player mode. Set on a building site, underground, in a shopping centre and in the park, they are each divided into two parts. In both, Freddy attempts to acquire maximum street cred by picking up tools and valuables, throwing missiles, performing somersaults and jumping with the greatest of ease over 45° ramps.

The first stage sees Freddy negotiating a multi-directionally scrolling obstacle course. Hazards include uneven surfaces, broken bottles, moving cars, giant rats, live electric cables and patches of oil. Bonus points are awarded for avoiding these with flair; wobbly movements and awkward falls increase fatigue. Exhaustion forces Freddy to retire, while a slow and feeble performance eats away at his cred-o-meter. If it falls to zero Freddy loses one of his three precious lives.

At the end of the course, four spectators pronounce judgement; fail to make the grade and you're forced to try again. Provide a sufficiently trendy performance, enhanced by plenty of bonus points, and you're rewarded with access either to the next level or the second stage . . .



▲ Urgh! Where am I?

KATI

" Another excellent game from Gremlin Graphics. The courses are carefully designed with plenty of obstacles to provide an action-packed challenge. Fearless Freddy, complete with peaked cap and shades is stylishly animated, and the gameplay itself features plenty of variation. With a catalogue of dashing somersaults, mind-boggling jumps and spins at your disposal there's no end of opportunities to show off. It's just a pity that the judges of the first part are such sticklers for style. Unless you perform an incredible series of amazing, breath-taking, astonishing and astounding feats they won't let you proceed to the next stage. You can complete the course and score up to 10000 potential points and the judges will still be too fussy to let you move on. Still – once you've mastered the technique you'll probably be too busy showing off your latest double axle, backwards spin extravaganzas to notice. Whether you're a cool dude or just an ordinary guy you'll find plenty to impress – so go crazy and splash out. "

84%

NICK

" Wow! This is my sort of game. Trying to gain street-cred is my main pastime! Graphically Skate Crazy is OK but the monochrome colour does let it down a bit on Level One. Once you have mastered the controls and worked out some groovy somersaults you can attempt to impress the judges, but believe me, it takes some doing! On the first level your skater moves similarly to the bloke in 720° which means that when you try to stop he slides on (usually into a pile of tyres or something!). You can get some fun out of just jumping around the first couple of levels because it's doubtful that many people will get past these, Gremlin have made it so hard. Once you have completed the first few stages, you go onto a totally different game: the skater is seen side on here and you have to jump over objects and do acrobatics as before. Skate Crazy is great to begin with but the frustration of failing to qualifying for the umpteenth time on Level One diminishes its addictive qualities. Once you get further into the game, though, it does improve. "

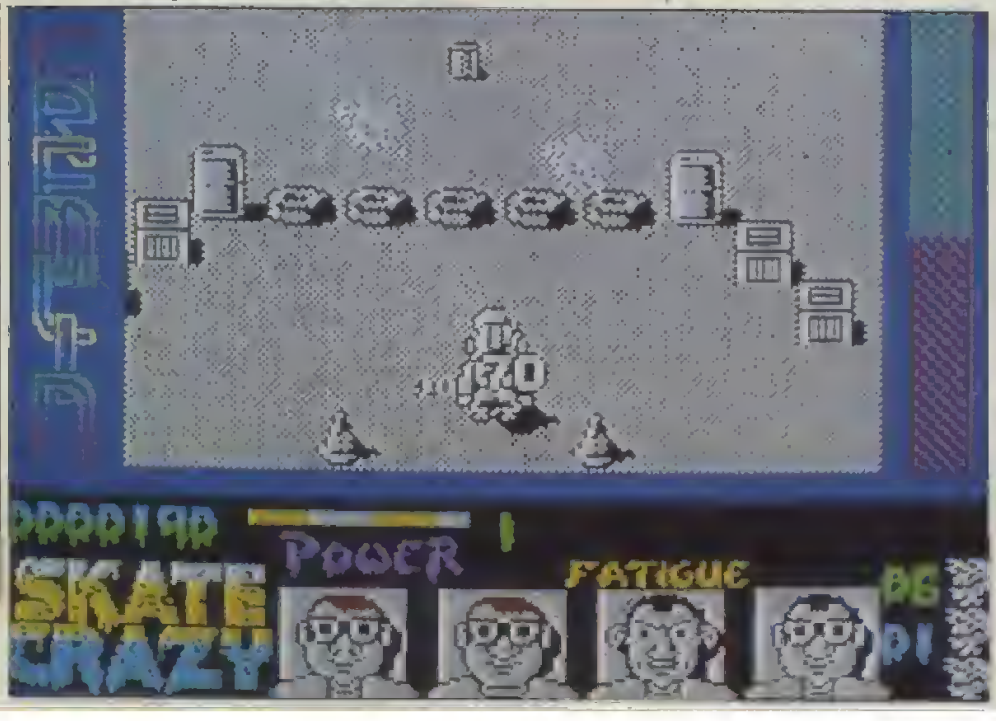
81%

PHIL

" Skate Crazy is great fun – zooming round the courses jumping and somersaulting. The graphics in the first game are well-shaded and detailed; the flags even blow in the wind. It's really hard trying to stop your skater from sliding all over the place and crashing, especially with the various hazards on the track. The scrolling is very smooth and fast, and the skater moves very realistically, especially when he slides out of control. Unfortunately there's no tune but there are plenty of spot effects during play. The game is very challenging since the judges (who look like a load of criminals) mark low and time runs out fast. The second game has good, colourful graphics and is also difficult. This difficulty could put some people off but the game is very playable all the same; if you like a challenge just get your skates on! "

85%

▶ Have Gremlin got the street cred for a hit?



In a timed race set against a horizontally scrolling background of platforms and ramps, Freddy attempts to complete the Skate Crazy Car Park Challenge. Gaps in the floor and obstacles at head-height need to be avoided by judicious leaping and ducking. Falling teddy-bears, kites and kamikaze pilots attempt to hinder progress. A supply of well-thrown missiles fends these off, while picking up objects gains precious bonus points.

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: detailed objects on the first level, with numerous obstacles and colour on the horizontal
Sound: many smart spot effects
General rating: an original approach to an old sport. The high content and variation make *Skate Crazy* extremely enjoyable and addictive

Presentation	84%
Graphics	85%
Playability	83%
Addictive qualities	82%
OVERALL	**83%**

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BUT THE *seaside's no picnic—straight away you land on a lizard. Pop! One life lost. And you're down on score. Bounding on, you approach cacti, and approaching you is a balloon, closely followed by rooks. You could glide safely over the cacti, or jump for the balloon—risking death at the claws of the birds* **THREE BALLS,** *three lives, left. Lose them and there's no bouncing back. But you need those points*

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FOOTBALL MANAGER 2

Producer: **Addictive Games**
Retail price: **£9.99 cassette, £14.99 disk**
Author: **Kevin Toms**

Ever fancied being a Terry Venables or a Brian Clough? Well *Football Manager 2* allows you to manage a football team of your own, buying and selling players and choosing tactics. The game has been written by Kevin Toms, the man who programmed the original some years ago.

The player can choose to manage any league team, but no matter which, must start humbly in Division 4. The team for the next

match is selected by moving players out of the reserve pool into various positions on the field where the opponents players are also shown. There are three team selection screens, one each for defence, midfield and attack; the way players are positioned allows for various formations.

Each individual player has a skill rating: the higher the skill the better he can tackle and dribble. Each player also has a position in which he prefers to play. A player out of position has an arbitrary skill rating of two, reducing his effectiveness. Each player's fitness level is also shown. If it falls below 50%, he must be rested from match play to recover.

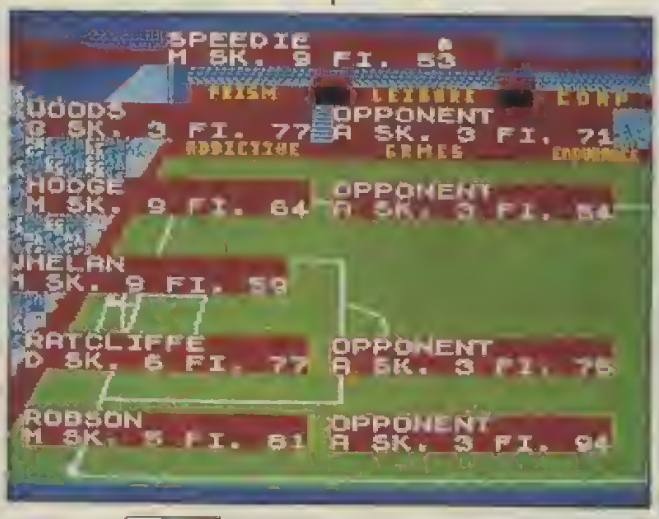
As well as choosing the team, the manager must also choose two substitutes which can be brought on at half time if needed. The team formation can also be altered during half time.

When the team has been chosen, the match action is displayed over three sections of the pitch, shown individually depending upon where the ball is. The players run around the pitch automatically, dribbling, tackling and shooting. If a goal is scored the name of the scorer is given. After the match the other results in the division are also shown, followed by a league table. Apart from playing league matches, the team also take part in the FA and League Cups.

Each week some players come into the transfer market and the manager can make a bid for any of them. Players can also be sold to raise cash and reduce the wage bill.

The finance screen shows the profitability of the club. Gate receipts, wages and overheads are shown along with the weekly balance.

▼ Whatever is Whelan doing in goal with Chris Woods at left back?



PHIL

" It's taken a long time for the sequel to the classic original to arrive but Kevin Toms has managed to make a big improvement to it. The graphics are good for this type of game with plenty of little players running about the screen, although there is a lot of colour clash. The best thing is the positioning of the players and the fact that they appear in the right area of the field during the game. The way the teams actually play isn't exactly brilliant with the players bunching up and all chasing the ball at the same time (a bit like Wimbledon without the fouls). However, the standard of graphics isn't that important in this type of game. The transfer system works well, as do the various tactical options such as extra training. Little of the play seems to be random so strategy works well. The game really keeps your interest as you feel you have some control over the way the team plays; the best game of this type yet. "

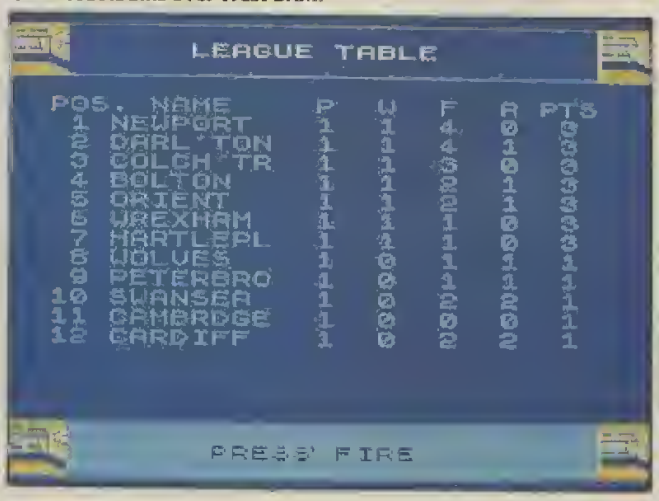
80%

NICK

" I'm not a great fan of football management games but I did quite enjoy playing this. It has more to offer in the way of graphics, is easier to use than most other football games and is also well presented. The player selection is easy to use and not confusing at all. And with all the little pictures that are used in the game, you never get a boring screen just full of text. When the match is played all the players move around the screen well but there is the usual colour clash which is to be expected. Football Manager 2 **is a great improvement over** Football Manager **because of all the enhancements Addictive have put into it. You can now do man to man marking, there's a full 92-team league and a display of who has scored. For all you** Football Manager **fans,** Football Manager 2 **is an essential purchase. "**

72%

▼ Defeat looms over West Brom



PAUL

" And as far as I was concerned Football Manager **was the best thing since Clive Sinclair. But now things have changed, there are games such as** The Double **and** Football Director **available through mail order, so** Football Manager 2 **is well overdue. The sequel isn't just** Football Manager **with a few extras, it's a complete revamp of the old game. Kevin Toms has obviously looked at all the football strategy games around and taken what few good points they have. Then he's looked at the whole concept of sports strategy games and added a new dimension to it, making it more appealing to a wider range of people. People criticised the graphics in** Football Manager, **so they been improved. But games of this genre shouldn't be judged on their graphical appeal – strategy games are all about planning and that's where** Football Manager 2 **is so good. If you plan your tactics realistically then you'll get realistic results – along with a few random elements thrown in (football *is* a funny old game). Real football fans everywhere will love it; it may not have mess appeal, but it's a leader in its field. "**

82%

COMMENTS

Joysticks: Kempston, Sinclair
Graphics: poor, with colour clash, but purely functional
Sound: limited spot effects for acknowledgement only
Options: nine difficulty levels, choice of 92 teams
General rating: one for all fans of the very popular football genre – top of the league!

Presentation	**77%**
Graphics	**40%**
Playability	**80%**
Addictive qualities	**79%**
OVERALL	**79%**

SNOOKERED

Producer: **Top Ten**
Retail price: **£1.99**
Author: **Steven Howlett**

For those who feel they have the brain-power but lack the necessary co-ordination to play top class snooker, Top Ten have devised a snooker game with a difference: green baize has been forsaken in favour of grey matter as the player pits his wits against the computer in a trivia version of the popular game.

The screen pictures seven balls (four red, three coloured) lined up before the corner pocket of a snooker table. The computer invites you to answer general knowledge questions corresponding in value to the red and coloured snooker balls.

Play kicks off with a red ball question, whereupon the player selects one of four answers lettered A to D. The answer must be given within a given time limit, indicated by a rapidly diminishing bar. If he gets it right the computer pots the ball and the player moves on to a colour of his choice; yellow, blue and black questions ascend in order of difficulty and are worth two, five and seven points respectively.

Red and coloured balls are played alternately until 16 red balls have been potted or two questions have been answered incorrectly. As points are accumulated, a status strip at the top of the screen indicates the player's general knowledge rating from good (average) to genius (unbeatable).

NICK

" Putting Dave Lee Travis out of a job, eh? Snookered is identical in idea to the Radio 1 quiz, 'Give Us A Break', and the arcade game that goes with it. The questions seem to be very advanced and you cannot change the difficulty to suit your own abilities. If you can't answer the set level of questions then the game will just refuse to let you get anywhere. Snookered isn't really worth this budget price, avoid if if possible! "

34%

KATI

" As a bug-eyed trivia addict myself, bleary from too many nights of Trivial Pursuit, I'm always ready for another chance to prove myself a would-be mastermind. Very reminiscent of the arcade game Give Us A Break, Snookered saves your precious ten pences by bringing the same snappy game technique straight into your home. £1.99 buys you about as large a question file as you'd expect; questions start repeating themselves fairly quickly and the game as a whole probably won't last for more than a couple of days of play. Still – that's plenty of time to put yourself in training for the award of snooker mega-brain. "

74

COMMENTS

Joysticks: Cursor, Sinclair
Graphics: more functional than impressive
Sound: very limited (although not really needed in games of this type)
Options: definable answer keys
General rating: a clever and addictive trivia game, although only for fans of the genre with a general knowledge interest

Presentation	60%
Graphics	40%
Playability	65%
Addictive qualities	50%
OVERALL	**59%**

POWERAMA

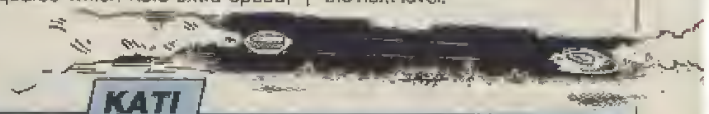
Producer: **The Power House**
Retail price: **£1.99**
Authors: **David Crummack and Craig Galley**

Earth is under attack from a fleet of colossal alien ships and you're the only one that knows about it. Your tiny scout ship is the only thing that stands between earth and its imminent destruction.

Enemies fly in over a monochrome, vertically scrolling background of aerially viewed space cruisers, firing bullets. Collision with aliens or their fire results in the immediate loss of one of five lives. Shooting the energy-giving solar panels on the huge cruisers slows down the fleet giving time for Earth's forces to regroup.

Equipment can be improved by flying over a series of flashing squares which hold extra speed, lives and ammunition.

Each level culminates in a confrontation with an alien mothership. Destroy it or simply avoid its shots to allow passage to the next level.



PAUL

" For two pounds Powerama is quite a pleasing little shoot 'em up. At first the graphics may not seem up to much, but the alien hordes are originally drawn and swarm around the screen at a controllable pace. Colour, not extensively used in games of this type, is limited – only a few blobs on bonus objects – but are, like the game in general, smoothly scrolled. Some of the ground objects may seem familiar (like the main ship and those little blocks, both from Uridium) but for £1.99 you can't complain. Good to see a starting level option – although even the first level is reasonably frantic. Let's hope that The Power House continue producing software of this higher quality. "

60%

KATI

" As another vertically scrolling, monochrome shoot 'em up to add to the ever-growing list, Powerama definitely holds its own. It's nothing spectacular but, within the limits it sets itself, it's competently presented and very playable. As much as possible has been done to increase the life-time of the game. Aliens descend in different formations on every level so you don't need to go into automatic pilot every time you play and you can begin on any one of the first four stages. If you're after a cheap and standard shoot 'em up, and as long as you're not too bothered about designer graphics, Powerama might just be the one. "

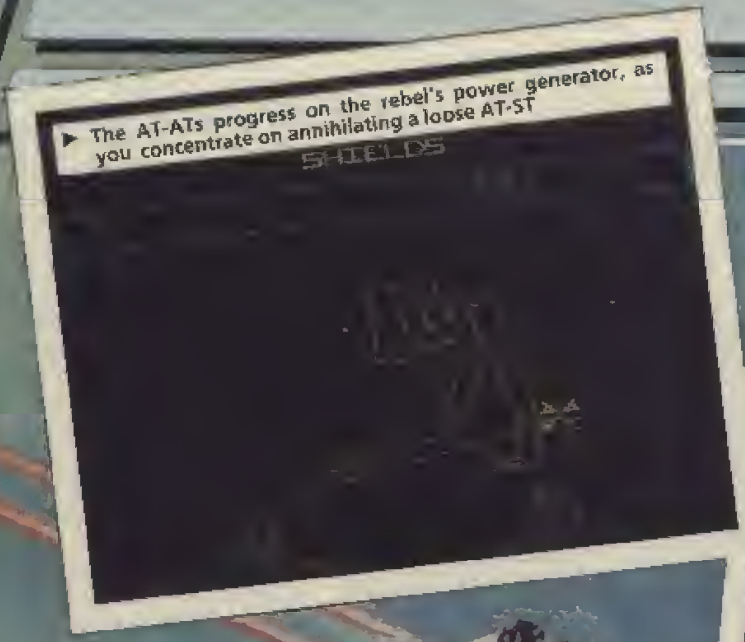
62%

▼ **The Power House's best**

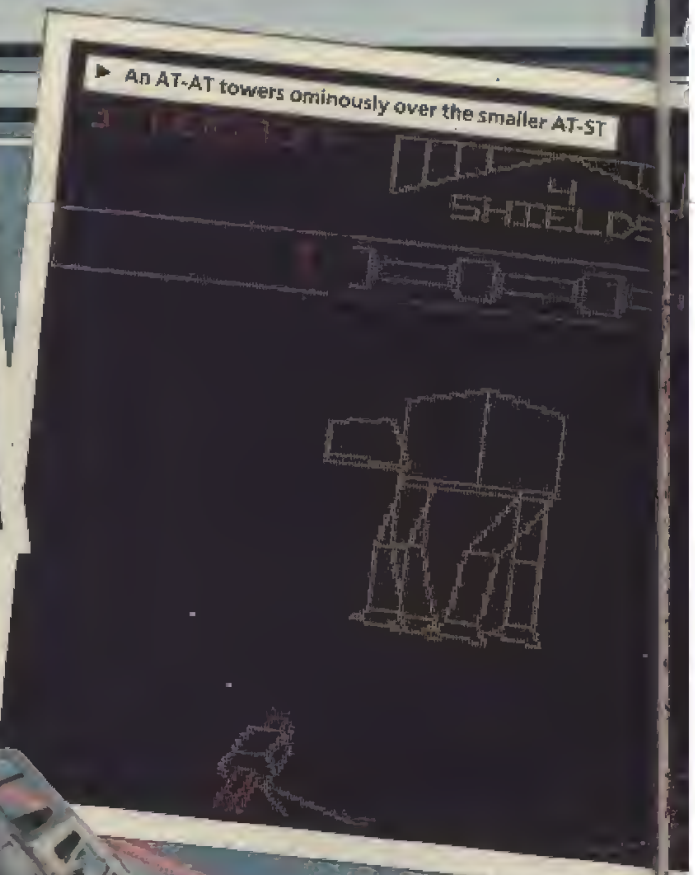
COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: monochromatic. Originally drawn aliens, very smooth animation
Sound: limited spot effects
General rating: an addictive little shoot 'em up representing good value for money

Presentation	60%
Graphics	55%
Playability	65%
Addictive qualities	68%
OVERALL	**61%**

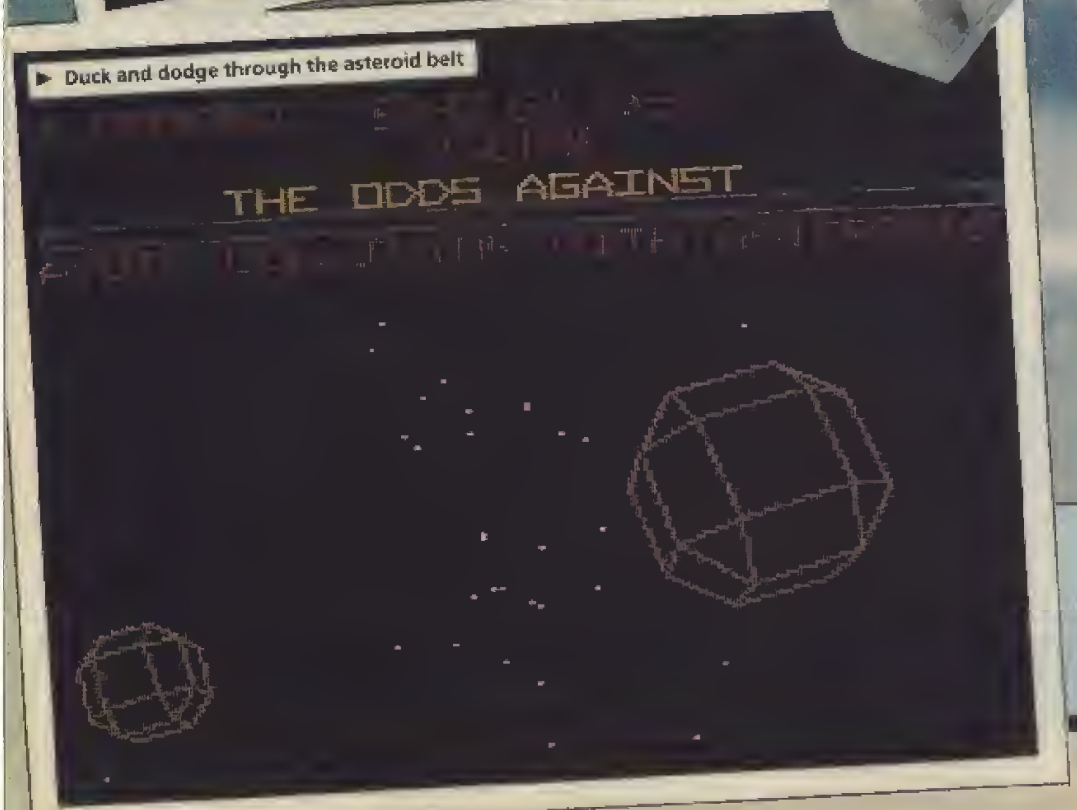


▶ The AT-ATs progress on the rebel's power generator, as you concentrate on annihilating a loose AT-ST



▶ An AT-AT towers ominously over the smaller AT-ST

▶ Time for Han to break a few TIEs



▶ Duck and dodge through the asteroid belt

Producer: **Domark**
Retail price: **£9.99**
Authors: **George Iwanow (of Vektor Grafix)**

THE EMPIRE STRIKES BACK

A CRASH Smash

WARS

The dark Lord of the Sith, [illegible] Vader, has returned [illegible] only Luke Skywalker and [illegible] group of brave rebels can [illegible] him and his evil forces. *The Empire Strikes Back* is the sequel to Domark's *Star Wars* game which gained 84% in Issue 48.

There are four levels in the game which broadly follow the plot of the film. The first level takes place on the surface of the planet Hoth, where the Empire has released hundreds of probots to search for the rebel hideout. The player takes the role of Luke Skywalker and must stop the probots from transmitting pictures of the rebel power generator to Darth Vader. The player's aim is to shoot [illegible] many probots as possible and [illegible] to destroy their transmission. The probots are not unarmed however and shoot fireballs at the player's snowspeeder partially destroying its shields on contact.

If Luke [illegible] ages to survive [illegible], he proceeds to the next level where [illegible] snowspeeder [illegible] the planet's surface to do [illegible] the Empire's AT-AT (All-Terrain Armoured Transport) and AT-ST (All-Terrain Scout Transport) walkers. The AT-ST walkers are small but fast, while the AT-ATs are very large and slow and can be "tripped up" by firing tow cables at their legs.

For the third level the player takes the role of Han Solo in his Millenium Falcon against a swarm of TIE fighters. The enemy move quickly around the screen firing shots at the spaceship. Only if this is survived can the player progress to face the peril of the asteroid field which contains multitudes of deadly spinning boulders. These cannot b[illegible] avoided [illegible] huge [illegible] rebel [illegible] ag[illegible]

[illegible] points [illegible] ying a [illegible] targets [illegible] and wi[illegible] [illegible] the player [illegible] spe[illegible] JED' then for [illegible] he become invin[illegible] [illegible] enemies.

" The Empire Strikes Back is, of course, very much like it's predecessor Star Wars, with fast vector graphics. The game is of the 'blast everything in sight type' and is full of mindless violence. The vector graphics move very smoothly and are surprisingly colourful. The way the walkers move is particularly good as they stride along, head turning. The gameplay is fast and furious with plenty of well-drawn, fast moving enemies about. Of course, the game is not very original since there are plenty of wire-frame shoot 'em ups about, but it's playable all the same. The various levels each provide a different challenge and add variety to the game. If you liked Star Wars then you should enjoy this. "

PHIL 90%

" Domark have, without a doubt, done the best job they could have. The Spectrum version has all the speed and playability of the all-too-rare arcade machine and is amazingly addictive. If you thought Star Wars was fun – and the graphics on that were pretty neat – then take a look at the latest in Domark's trilogy; the walkers on the second stage are out of this world! Their movement is so realistic you'd think you were watching the film (well, almost). The speed is tremendous – especially on the first stage where you can really swoop around and dodge things just like on its arcade equivalent. And then there's that great Star Wars soundtrack. Domark don't produce many games, but they're always memorable. Now, when's Return Of The Jedi coming out? "

PAUL 90%

" Graphically The Empire Strikes Back is excellent - just like the arcade machine. All the aliens move smoothly and are well animated; there's even a generous amount of colour in there too. You may think that it's a waste of time to buy this if you already own games such as 3-D Starstrike, Starglider or Star Wars, but this does hold some new enemies and it is pretty fast. Besides the 3-D graphics in the game there's also a picture of Luke Skywalker on the title screen and when you start you have to wait while Darth Vader's ship Executor passes by. The Empire Strikes Back is great fun if you're a fan of this style of 3-D shoot 'em up, but with the lack of levels I don't think it will have huge lasting appeal. "

NICK 90%

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: superb representations of the arcade characters, all moving at break-neck speed
Sound: hip-hop Dave Whittaker *Star Wars* soundtrack (enhanced on the 128K machines), and in-game sound effects
General rating: Domark go from strength to strength. *The Empire Strikes Back* has all the speed, playability and graphics of the arcade machine. A must for all fans of the trilogy

Presentation	91%
Graphics	91%
Playability	90%
Addictive qualities	90%
OVERALL	**90%**

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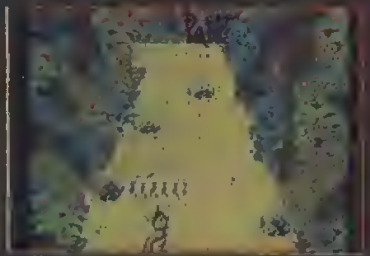

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Write the six sports on the back of a postcard – don't forget to include your name and address or you won't win anything – and send your entry to: **THE MOST EPYX COMPETITION EVER, CRASH, PO Box 10, Ludlow, Shropshire SY8 1DB**

All entries must be received by August 2 and the decision of the appointed judges is final. As if you didn't know.

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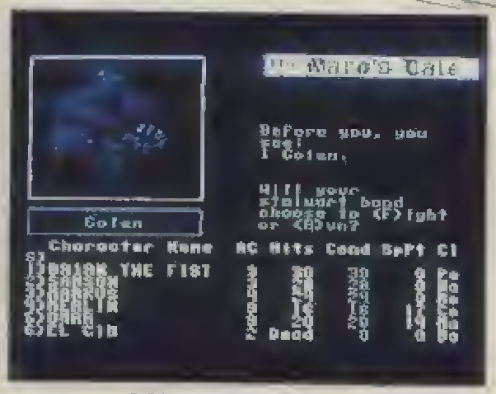
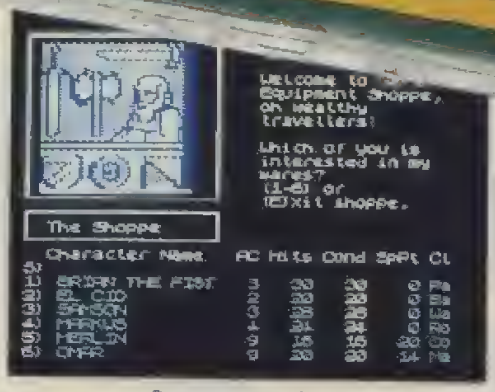
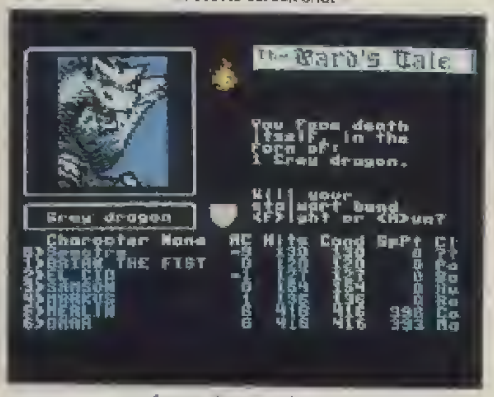


C-64 cassette screen shot



Spectrum screen shot



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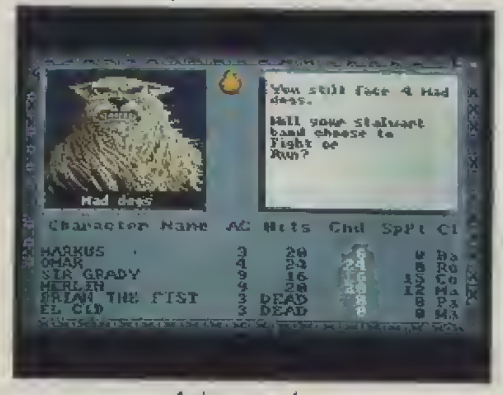

Amiga screen shot

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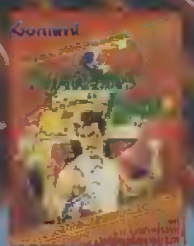

Our hero has finally mastered the secret martial art "CHIN'S SHAO-LIN" but is trapped by triad gangs. With kicks and other secret powers, escape from and travel SHAO-LIN'S road to freedom!

The planet Nemesis, is now under an all-out space attack beings from the sub-space star cluster of Bacterion. You will need all your courage and concentration to win. Get ready to blast off!

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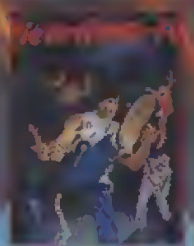
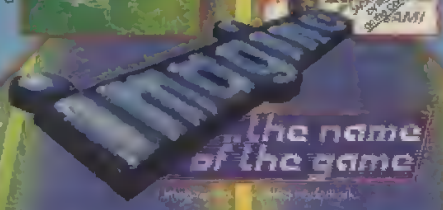
Get into this and you'll never get out . . The plan – codename JACKAL – is to drop a squad of 4 crack troops behind enemy lines. Rescue a group of prisoners and whilst under attack, deliver them to helipads. Their final objective is to knockout enemy headquarters. Simple eh?



Become a grand-master but to achieve this you must defeat a variety of deadly opponents, armed with different skills and weapons and must be overcome with a combination of 6 different attack moves.



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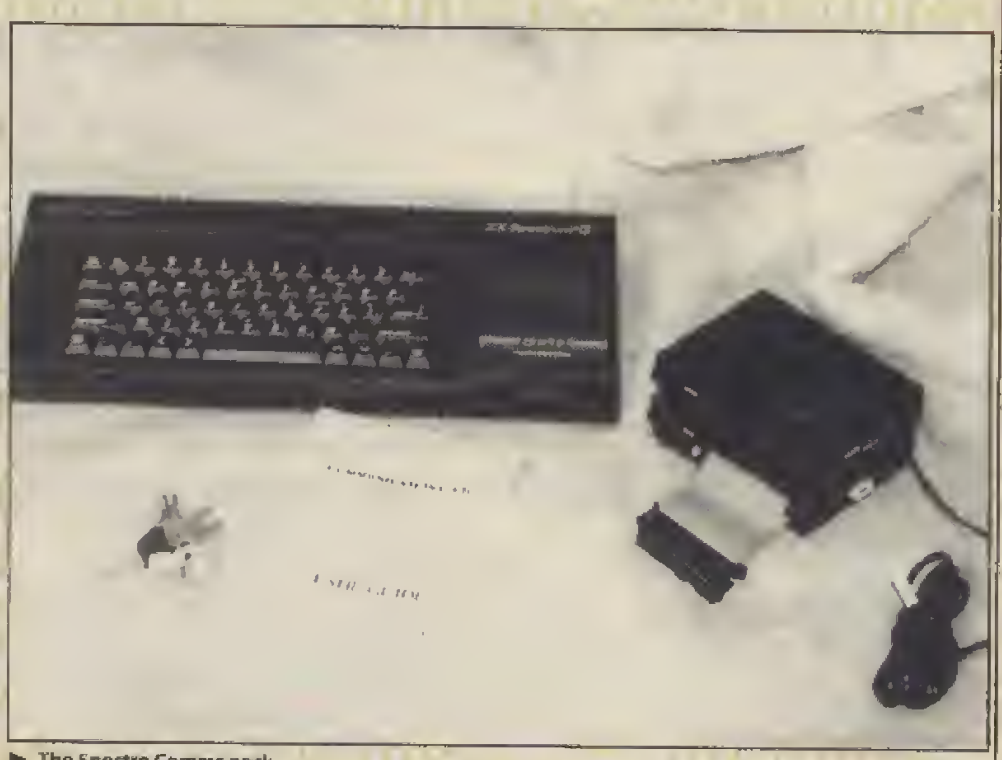
COMMUNICATIONS

A SPECTREGADGET

PAUL EVANS takes a look at the latest in hardware add-ons and moans about inflation . . .

HELLO PEEPS! I'm a bit pooped at the time of writing because of all the hefty revision that's been going on as I get nearer my first exam! It seems that doing this *and* keeping Micronet in check has become a busy job – and a tiring one. This is my explanation for the smaller article this month. The deadline for my next piece is slap-bang in the middle of my exams so I don't know if I'm even going to get that one done! (You'd better – Ed) My promised 'surprise' is still being prepared, so keep guessing. Interesting things have been happening . . .



► The Spectre Comms pack

DARE THEY?

We kick off this month by looking at what could be Prestel's biggest upset since it began. Up until now I have never been a big fan of Prestel charges, especially the fact that we have to use normal priced lines when connected, so any drop would be welcome with open arms. However, a number of reliable sources (I've always wanted to say that!) have come to me with details of a new price INCREASE! Yes, all my friends tell me of a new time charge costing 1p+VAT for every minute that you are logged-on to Prestel, INCLUDING off-peak times.

Surely, with this news, the very existence of Prestel will come into doubt! I cannot see many more people joining if this new charge comes into use. I certainly won't be logging on as frequently as I normally do – I can't afford to! I have been unable to get hold of the lords of Prestel, but I will!

If this charge is enforced then I will personally hold a campaign into it s stoppage. The normal user will be unable to afford Prestel useage and so less people will subscribe to Micronet. If that happens, Micronet will shut shop, and then Prestel loses their biggest customer. If that happens then Prestel will soon revert into the old small system that existed before Micronet. Therefore Prestel seem to be slitting their own throats!

If you have any comments, MBX me on 219995412 or write to me at **COMMS, CRASH, *1/2 King Street, Ludlow, Shropshire SY8 1AQ***

+3 COMMS AT LAST!

After a long wait, a modem for disk owning +3 friends has finally been released. Spectre, the creators of the VTX Editor ROM, have come up with this new package. It's an advancement on the famous Spectre Comms Pack which was a big success on the QL and a slight success for the Speccy.

The new pack is compatible for the entire Spectrum range form the +3 to the old rubber key 48Ks. All the software is held on the internal ROM, which sounds very similar (if not identical) to the Spectre Comms ROM for the VTX. It has extensive frame preparation, good MBX facilities with storage to microdrive or disk (no mention of tape). The software also has printer drivers for Epson compatibles or the humble ZX black blob (the instructions always talked of not cleaning the ZX Printer with spirits because it would turn into a black blob. I must try it sometime . . .). Should you want Micronet's extensive range of telesoftware, a downloader has been provided. Your thirst for the scrolling boards can be tamed by the on-board ROM too!

As for modems, it supports Hayes compatibles as well as manual dial modems such as the Tandata QMOD which is the more-or-less standard modem supplied for the Comms Pack. The QMOD are switchable for use with V21, V22 and V23 (Prestel) standards.

How much dosh? Well, for £49.95 you can have the comms pack or if you wop out £99.95 from your wad then you get the QMOD too! This includes P&P. Where? From **Spectre Comms Ltd, *The Old School House, Tenter Row, Crosby, Ravensworth, Penrith, Cumbria, CA10 3JA***. Phone them on 0931 5362 for more details!

OH NO! NOT AGAIN

I don't care what the editor (hallowed be his name) says, it's got to be engineered into my article somewhere! It seems that PETER GABRIEL (whose 4th album is being played as I type) and that master of the synth, Howard Jones, have teamed up in a vegetarian way to launch a bulletin board! It's for people concerned about the environment and has little to do with computers themselves. Sounds like a good idea to me, but will it take off? I'm now looking into it and will soon have details!

That's it I'm afraid! More news on the above next month and a further delve into the great Prestel scandal! Bye all!

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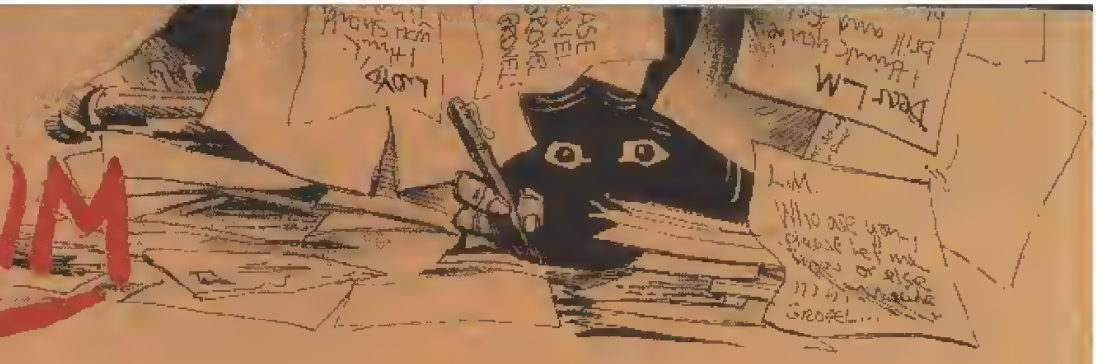


We have a veritable hotbed of controversy this month with bruised morals and ethics being hurled all over the place. And so, without further ado, let the moaning commence . . .

YOU'RE NEVER TOO OLD . . .

Dear Lloyd
It is only in recent months that I have been taking CRASH magazine, having transferred my affections because a certain magazine gave me a naff cassette 'free' and upped the price of the mag by 50%. I do like folk to be honest, having been born 72 years ago and not yesterday. Anyway, they couldn't spell either.

I feel I must congratulate you upon your answers to letters, showing courtesy and understanding, and making for interesting reading.

Being of great age, lacking a right arm and possessing a duff right eye, I spend a great deal of time playing computer games – mostly simulations – and where possible, with a joystick, as you will understand. I am not as bright as I might have once been, and am fortunate in having a 12-year-old pal who puts me right on most things. He possesses a 128 + 2 Speccy, whereas I own a 48K Speccy, and my tastes in games do not always correspond with his.

I bought a copy of *Gunship* and could only load up to ¾ of tape one. I found Microprose extremely helpful (as indeed, when problems have arisen, have all games tape manufacturers). However, after returning two copies with no joy, my friend loaded it on his 128K machine.

In spite of your reader Trevor Parrish's objections on political grounds, it is a very true-to-life simulation, and most enjoyable to play.

PHM Pegasus is my most recent acquisition, and will not accept my Kempston Interface. It loads, but on pressing space to start the game, it crashes with regular monotony. So with one hand I sally forth to meet the foe on keyboard only. I don't think it could be my Speccy and in any case, 'er indoors is getting nasty about postage after said *Gunship* fiasco.

Please tell me, what is this 16-bit business? I am confused. What relation is it to 128K? And how many bits is my 48K Speccy? Can one still buy a 48K speccy, or am I stupid as well as confused (you try to be perfect at 72). And why do folk rabbit on about *Gunship* being anti-this and that; so is *Pegasus*. But further back was, I think, *Mission Over Moscow*, and I don't remember Kruschev banging his shoe over that one.

As you stated, it's only a game, thank God. I was born during the Great War and fought in the last one, and playing such games does less treading on toes than a lot of TV Programmes shown these days. Surprising isn't it: I have no complaints. I like CRASH and your reviews, both past and present. It's refreshing to note that no two folk think alike.

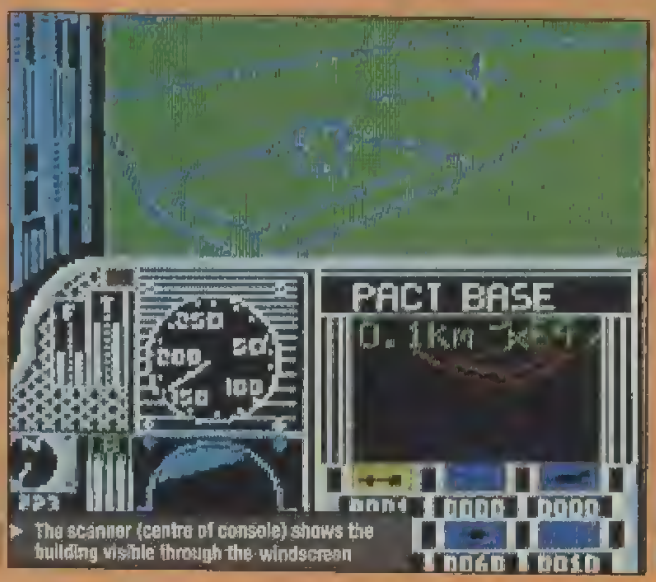
Don Garment, Aylesbury, Bucks

In answer to your queries, Mr Garment, the term '16-bit' refers to the architecture of the computer's internal processor. The Spectrum's Z80 Central Processing Unit (CPU) is an eight-bit chip, while the two most popular 16-bit machines, the Commodore Amiga and the Atari ST, both contain a Motorola 68000 CPU. As the ZX Spectrum's Z80 CPU handles information in 'bytes' made up of eight 'bits', so the 68000 CPU can handle bytes made up of 16 bits. These powerful chips also run at a faster rate than most eight-bit chips; basically they can handle a lot more information in a much shorter time.

There really isn't enough room here to go into detail. Take a look at the 16-bit special in next month's CRASH, which should help clarify things a little.

It's interesting to find that the majority of people who moan about the militaristic aspects of computer games have never seen active service themselves. Anyway, you can buy yourself – and your 12-year-old friend – some new software with this month's £30 software voucher.

LM



▶ The scanner (centre of console) shows the building visible through the windscreen

CRASH-DIVE?

Dear Lloyd
I had to write to express my concern on the current state of your brilliant magazine . . .

It all started with the December 1987 issue. Then came the Xmas Special – that was bad. Come Feb, March, April and now May. What is going on? Things seem to be going downhill – I'm talking of content!

Let me make this simpler; I'll compare the Current (May 88) issue to the June 1987 issue. May 88: 100 pages. June 1987: 132 pages. Around about the start of the 'Summer slump' (OK the fact that this issue was one of the most controversial ever doesn't count! (*Barbarian* cover – Ed)) June 1987 has some great features.

A nice Roger Kean (RIP) editorial; Minson (RIP) is doing great; wonderful review section; THE FORUM of course; Mike Singleton spilling his beans(!) – good interview; PLAYING TIPS – as good as ever! ADVENTURE SUPPLEMENT; is small beautiful? The low down on old software companies – Good! TECHNICHE and TECH TIPS – Great; TAMARA KNIGHT, plus the new Video reviews. To sum it up this issue is really good!

Now May 1988! Steve Jarratt attempts to excite us all with the prospect of another cassette(!), but it's just these damn reviews! Something has seriously gone wrong: nobody in their right mind would give *Tetris* anything under 90% – cue my buddy Ewan Dalton! (FORUM Issue 52 – Ed) Ewan and I have both agreed that losing 'Skippy' Dunn was BAD NEWS.

What other amazing Features do we have, The FORUM, PLAYING TIPS, The Candy CHALLENGE (?), Coin-Ops, TECHNICHE, FANZINE FILE, Compilations. And the Adventure Section is terrible with the departure of Derek Brewster. This Issue is, well, Crap. Not one decent feature.

Oh yes, I can see you in your reply, 'A bad issue – our off day'. Maybe you should take a close look at February, March and April, not to mention the Xmas Special: 196 pages my REAR END! More like 96 excluding the CRASH History which was FREE!!

I'm not denying that you lot still aren't the best, but give yourselves a shake, I just don't know what is happening; it may be the loss of good staff, I don't know – but you lot at Newsfield should! You need new features and better reviews. We don't want to know what's on the inlay card (that's one of the problems) we can go to Boots, John Menzies and so on, and read it ourselves.

I will keep on reading CRASH as it's THE BEST, but get out of this current phase! No wonder the ratings have dropped. You're all dressed up, everything going for you, but no effort.

I know this has been a long letter but I hope you print it, and in full, so that other readers can express their feelings.
(Hi, to Ewan, Mum, Dad, Mrs K, Mrs H, Mandy, Lynn and Elaine)

Malcolm Power, Ayrshire

After considering your views I have to say that many of your arguments are simply based on what you consider to be good or bad. You dismiss the May '88 issue as having 'not one decent feature', even though many other people may have derived pleasure from the new coin-op feature, or the feature on compilations, or the challenge, and so on. You also dismiss the playing tips special (nearly three times its normal size) with one deft move of your pen.

I agree that the reviews and the ADVENTURE TRAIL have been lacking of late, but both sections have improved tremendously over the last few months and are constantly being re-assessed and tweaked (watch out for an ADVENTURE TRAIL special next

month).

We at CRASH have to try and cater for all manner of tastes; sometimes we succeed, sometimes we don't. One thing's for sure: it's NEVER through lack of effort.

LM

DEUS EX MACHINA?

Dear Lloyd
The last couple of months have see quite a few letters bemoaning the lack of coverage for computers on television and in the press. It isn't that difficult to see why . . .

When home computers first exploded onto the market back at the turn of the decade, we were in the middle of that phase when larger computers became the scourge of many a man. Computers were taking people's jobs. You could hardly expect Joe Public to enthuse over his son's pleas for a Spectrum when he has just lost his job to a plastic box-cum-TV screen.

Computers instantly picked up an image that had dogged arcades in the years before (and still does now). Dark, evil places where only those adept at using a flick-knife survive. Places full of introverted *Space Invader* addicts.

It is surprising how that view remains apparent today; my mum still thinks that playing computer games leads you astray and turns you into a greasy, spotty teenager with glasses and an addiction to *Space Invaders*. She doesn't realise how much computers have progressed. She ought to be a Powerhouse programmer (less of that – Ed).

At the moment if you tell anyone that you enjoy playing computer games they run a mile. If the industry is to get the coverage it deserves two things must happen: finally the software houses have to follow the TV appearance lead of Codemasters and Virgin and radio lead of Ocean, and get themselves noticed. Charity releases always seem to hit a good note.

Secondly, we, the games playing public, have to convince the old-fashioned among us that it is perfectly possible to enjoy computer games without turning into a freak. Games such as *Zynaps*, *Driller* and the *Bard's Tale* are all harmless, enjoyable fun. So let's make one thing perfectly clear: COMPUTERS DON'T BYTE (sorry).

Ian Kerr, Cheshire

I think it should be some time before the majority of video arcades shake off their rather sordid image, but the bad press engendered by the earlier days of home computing does seem to have abated somewhat.

Before totally acquitting our silicon playmates, though, check out MONITOR this issue, and be prepared for some nasty shocks . . .

LM

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EVERYONE LOVES A CLUB

Dear Lloyd
I am writing to let you and your readers know that an Irish computer users club exists for the Atari XL/XE/ST, Commodore 64/128 and Sinclair computers. It meets twice each month, on the second and last Sundays of the month between 3pm and 6pm in the Powers Hotel, Kildare Street, Dublin. Tel: (01) 266326.

I would like to compliment you on the excellent magazine which you publish as it has given myself and others much enjoyment through the years since its release. Keep up the good work!

Jason Elliott, Ballyfermot, Dublin 10

Thanks.

LM

THE ART OF NOISE

Dear Lloyd
I own a Spectrum +2, and like Robert Hanway (of issue 52) I find it frustrating that so few games are enhanced by the additional memory and improved sound of the 128K machine. Then, whilst playing *SuperSprint*, I had an idea for a new feature in CRASH. Perhaps all those super hackers who so regularly produce infinite lives etc, could produce pokes to be used by 128K users. For example on *Super Sprint* a loud engine noise would add to the atmosphere and enjoyment of the game. I would have thought that this would not be too difficult for those master hackers.

So perhaps someone out of the many CRASH readers could help me and the rest of the 128K owners, by producing some short code to be printed in CRASH to somehow add to existing 48K games.

Would this be too difficult? I would be interested to read your reply.

Matthew Edwards, Barrow-On-Trent, Derby

My knowledge of the intricacies of machine code is akin to my familiarity with popular Norwegian restaurants. So, how about it hackers: can it be done?

LM

SEX AND DRUGS AND PLAY BY MAIL

Dear Lloyd
After flicking through the pages of your May issue trying to find a

freaky feature, I came across a play by mail ad by KJC Games featuring *It's A Crime*. I was shocked: the fact that this is a fantasy rather than reality does not make it potentially any less dangerous. The most dangerous aspect of this game is that to be successful, it is necessary to take drugs continuously and the description of this rule makes it appear not only acceptable but even a desirable condition to aspire to. I admit that in this case the situation was brought on by ourselves.

I have checked the issue of CRASH currently on the shelves in which the ad appeared, and in every issue that I own, a full page complete with explicit picture makes it perfectly clear what is on offer: 'gang warfare' by a 'Drug-crazed gang'. In this issue there is also an article on fantasy games featuring a picture of the *It's A Crime* rule booklet. Although the booklet does suggest that the game isn't suitable for young children this is not mentioned in either the advert or the article. Thus, as there is no age limitation and parental consent is not required, there is nothing to stop any child applying for this 'free' offer and receiving this offensive material without parents' knowledge. I would like to see it made illegal for advertising promotions like these to offer such rubbish to children and would welcome any advice or help you may be able to give. Also my comments also go to the *Vixen* ad. Do you know how many impressionable youths read your magazine? The illegal picture should offend every one of them and I think the picture should be banned and replaced by screen shots instead. Well, I am utterly peeved and would be pleased if any action were made.

Cho Hon Lee, Dewsbury

Well, Cho Hon, I spoke to Kevin Cropper, head of KJC games and he assures me that the nefarious activities portrayed in It's A Crime *are carried out in a humorous, comic-book style. He also suggested that the cost of successfully participating in the game (up to around £3 every ten days) is probably prohibitive to the age group in question. However, your comments have been noted and in our ever-present desire to please, KJC have agreed to sport a 'Not Suitable For Children' legend on their* It's A Crime *ad (I don't know where the fantasy games feature appears, though – we didn't have one!).*

I hardly think the Vixen *picture rates as being 'illegal', but the lack of respect with which women are portrayed in these ads is disconcerting. High street retailers Boots have already made a stand against such sexism, refusing to stock the game with the previous packaging. The latest copies of* Vixen *to be found in Boots feature only a head-and-shoulders of Miss Russell on the front, and no free poster!*

Next month, the pros and cons of censorship are discussed at length in the first episode of a new feature called SPLIT SCREEN – watch out for it.

LM

THE HIGH COST OF DEFLATION

Dear Lloyd

I'm writing to you to say don't you think with all the old computer games (and some new) being reduced to £1.99 within a couple of years of being released that people will wait until this has happened before they buy them. When you have bought a game for £10 you feel pretty sore when it's reduced to couple of quid a year later.

I also feel Elite is a major offender in this way. They bring out all their games together on a few cassettes within a few months of them being released. I don't think it's right that people should spend £50 on five or six tapes and find that:

1 The games are all on one tape for a tenner or less and you've just wasted up to about £30-£50.

or:

2 The game you bought is on a tape with loads of other games you wanted but you didn't know it was available.

I think CRASH is just as good as it's ever been if not better, keep up the good work.

Thomas Grinyer, Carnforth, Lancs LA6 1EY.

Having been similarly 'burned' by the purchase of full-priced games only to find them a month or two later on a compilation tape or with a severely deflated price-tag, I wholeheartedly agree with your comments. I can only suggest that patience is a very valuable virtue: if you are content to wait six months to a year before buying the 'latest' game, then you should be alright. Otherwise you pays your money and you takes your choice . . .

LM

Thus ends another round of point and counter-point. The quality of your communications is of an increasingly high standard these days. Keep it up – and keep the letters flooding in to: **LLOYD MANGRAM, CRASH FORUM, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB. You never know, you could find yourself the lucky recipient of a £30 software voucher!**

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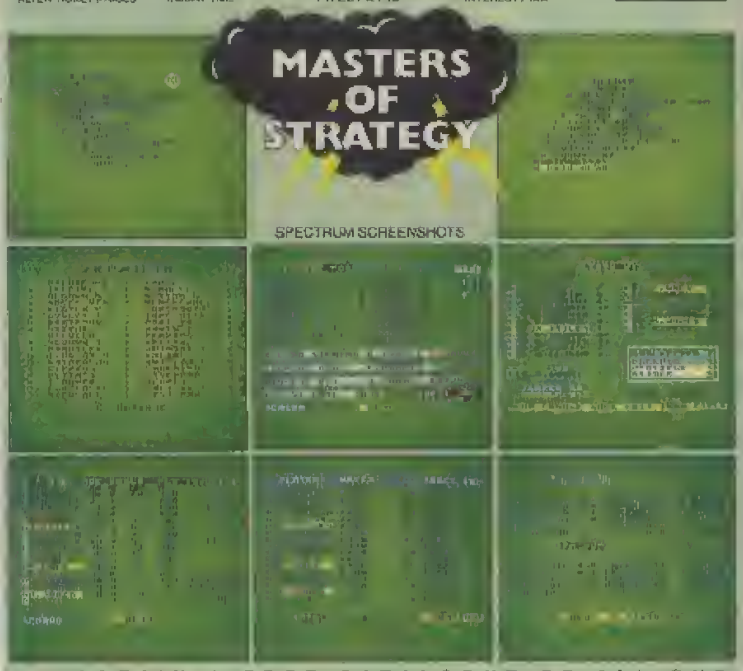

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Nick Roberts's

PLAYING TIPS

Happy birthday to me, Happy Birthday to me. Yes, you've guessed it's my birthday (on the 9th of July). I'll be 16 then, and just to celebrate asked The Managment if I could have one of those little birthday tune thingies on the first page of the tips. It would be [illegible]e to open up CRASH at your favourite section and hear a microchip celebrating my birth wouldn't it? No? Oh well. This is also a special month for Victor [illegible] because he wins the competition to map Gremlin's [illegible] As well as this brilliant map there's also a solution to the mysterious 18th sector of D[illegible] and, of course, the one you all love, [illegible] Mode [illegible] So don't delay, read those tips today!

HIT THAT TARGET

***Right, for all you Target Renegade* fans out there (and there are enough of you!), here's hard man Graeme Howard of Caldicot with a few tips and a cheat to toughen up your street fighting skills. He will soon be receiving a voucher for £30 to buy himself some new knuckle dusters!**

The Car Park

Jump-kick the guy on the bike and all the baddies once, then punch them while they're on the floor. As soon as a man with a weapon arrives on the scene, jump-kick at him and then pick up his weapon. A weapon gives more points when used than unarmed combat.

The Seedy Street

The ladies of the night will follow you so wait with the woman to your left until the man with the gun shoots, killing the woman instead of you. When the man has run out of bullets you can kill the ladies, then the man – he is harmless without ammunition.

City Park

Go right as quickly as possible, since there is an axe lying on the ground there. Use the axe to simply hack your way through all the baddies. Keep walking until you reach the exit.

Shopping Mall

Here, the game gets harder. The 'Beastie Boys' duck when a jump-kick is made so to kill these you have to jump-kick over the top of them and then use back-kick twice to put them on the floor. While they're down, punch them. Use the techniques used in the car park to defeat the other baddies.

The Sleazy Bar

The bodyguards hug and head-butt you if you don't use the 'Beastie Boys' technique quickly. They are hard guys but can be punched while they're on the floor after just one hit. When the bodyguard with the snooker cue enters, knock him to the floor and quickly pick up his cue since it makes defeating baddies easier. Try to take the snooker cue to meet the boss.

The Boss

Surprisingly, this is one of the easiest parts of the game! All you have to do is to collect the cue from the bottom left side of the screen (if you don't already have it) and wait in front of the boss. When he comes close hit him twice with the cue and he will fall to the ground. Repeat this four times and he dies. Matt can now rest in peace.

Cheat for Infinite Lives

Firstly play the game until a high score is achieved. Once on the high score table press 'CAPS SHIFT' and '0' at the same time until about two to three lines are filled up with the symbol C/S. Now press 'ENTER'. The screen goes jumbled and look like a crash. Play on through the game and after a short time the screen returns to normal, but you have infinite lives.

CHEAT MODE MOTEL

Phew! This African summer that we're supposed to be having isn't half having an effect on the guests in Cheat Mode. All they seem to do is ask for more cool drinks and the fan to be turned up. I think I'd like to stick to the usual Ludlow summer: rain and high winds! Anyway, enough of my problems, here are this months offerings:

STAR WARS

When entering the trench, press SPACE, S, D, F and G simultaneously and the border will flash green. You can now move out of the trench without getting hit. Wait just below the trench and then press SPACE, Y, U, I and O simultaneously and the border will flash magenta. This turns off the cheat mode, so don't enter it again until you see the words EXHAUST PORT, then quickly move [illegible] into the trench and shoot the hole. Using this method you should be able to complete the trench every time.
(occupants: **The Industrious Hackers**)

BUGGY BOY

If you come near to the end of a stage but the timer says 0, don't drop the joystick and sit back, keep pressing up and if you're going fast enough you should cruise over the line and continue. It also helps to gives you that last spurt of acceleration if you go over any logs that are handy.
(occupant: **Lisa Martin**)

SABOTEUR 2

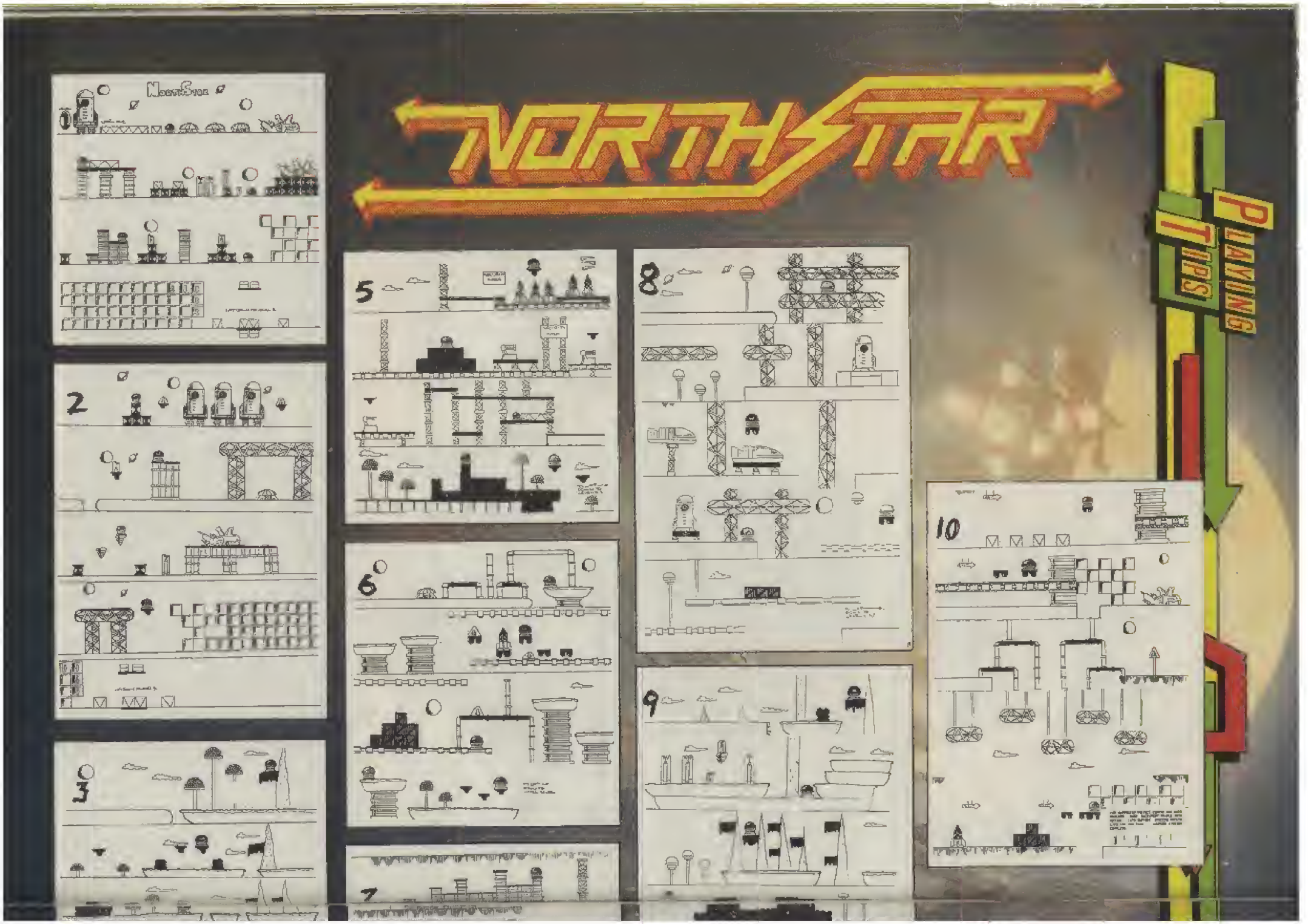
On any level, go to the bottom floor of the armoury, kill the guard with a wrench, then go and stand by the nearest box. Press DOWN and you'll go down a concealed ladder. Once down it you'll be in a secret chamber. Go to the chest you'll find there and then you'll find you're immune to injury!
(occupant: **Lee Turnock**)

AUF WIEDERSEHEN MONTY

Here's a cheat to get infinite lives and immunity to monsters. The trick is in the loading: type LOAD "" as normal, but after it type REM MONTY, so the screen now says LOAD "" REM MONTY. Enter it and play the tape. Once loaded, pick up the item on the left and enjoy being an immune mole!
(occupant: **Lee Turnock**)

VIXEN

Just wait around and let your time run out. The clock will reset to 255 for a huge bonus.
(occupant: **Jeff Crouch**)


NORTHSTAR
PLAYING TIPS
NorthStar
2
3
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6
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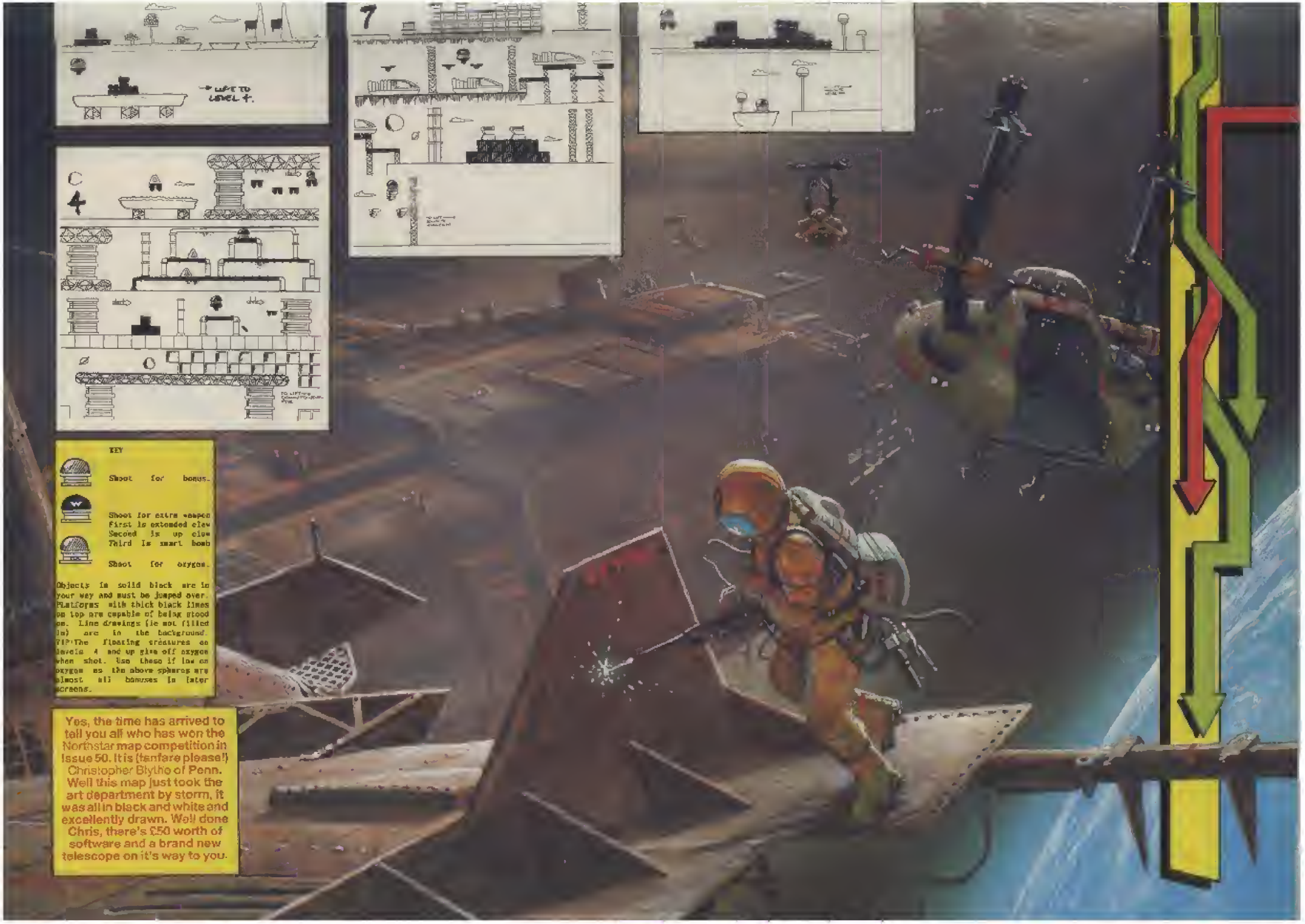
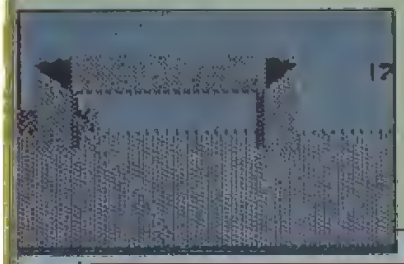
8
9
10


LIFT TO LEVEL 4.
7
4
KEY
Shoot for bonus.
Shoot for extra weapon
First is extended claw
Second is up claw
Third is smart bomb
Shoot for oxygen.
Objects in solid black are in your way and must be jumped over. Platforms with thick black lines on top are capable of being stood on. Line drawings (ie not filled in) are in the background.
TIP:The floating creatures on levels 4 and up give off oxygen when shot. Use these if low on oxygen as the above spheres are almost all bonuses in later screens.
Yes, the time has arrived to tell you all who has won the Northstar map competition in Issue 50. It is (tenfare please!) Christopher Blythe of Penn. Well this map just took the art department by storm, it was all in black and white and excellently drawn. Well done Chris, there's £50 worth of software and a brand new telescope on it's way to you.

GAMING TIPS

LOADSATIPS!

Will tips for Incentive's brilliant Driller **ever stop flowing in? I doubt it. This time Mark Jones of Swansea and James Leeds of Norwich have both sent in the way to get to the mysterious 18th sector of the game. Just follow all the tips given in Issue 50 then carry on with these . . .**



☆ To turn off the forcefield in Ochre, destroy the cube in Graphite and platform inside Malachite's floater.
☆ Hit switch in Basalt's secret passage, and to drill it, approach box at an angle from the rear.
☆ After drilling 17 sectors the '17' in Obsidian will change into a switch. Hit it.
☆ Use triangle and block in Graphite as laser sights to hit rear wall. A switch will appear so hit it.
☆ To enter Trachyte go to Obsidian.

'Even more *Driller* tips!' I hear you shout. This time Will Downing of Daventry has sent in all the drilling co-ordinates that should get you near the 100% mark.

SECTOR	X	Y	DIRECTION
ALABASTER	3741	4192	E
AMETHYST 1	6038	6059	NE
AQUAMARINE	5124	290	S
BASALT	1383	1196	N
BERYL 2	7146	4144	NW
DIAMOND 3	4120	2724	N
EMERALD	4543	4128	W
GRAPHITE	1126	6740	S
LAPIS LAZULI	1789	3654	NE
MALACHITE	5895	5785	S
NICCOLITE	0512	1698	N
OBSIDIAN	7063	6788	W
OCHRE	2075	6810	W
OPAL	7423	7741	E
QUARTZ	2786	1799	W
RUBY 4	3752	2506	E
TOPAZ	2299	0513	E
TRACHYTE 5	----	----	-

CUDDLY CAIRNPOKE

You're never going to guess who sent me the most routines this month. Yes that's right, Cairnpoke of Lisburn in N Ireland. I have included the best of their offerings for your delight, which include a new *Exolon* routine as you all say the last one didn't work!

TOP GUN

```
10  CLEAR 65533: LET T=0
20  PRINT AT 10,4;"POKES BY
    CAIRNPOKE (C)1987": FOR
    F=23296 TO 23425
30  READ A: POKE F,A: LET T=T+(F-
    23296)*A: NEXT F
40  IF T<> 292366 THEN PRINT
    "ERROR IN DATA, CHUM!": STOP
50  RANDOMIZE USR 23296
60  DATA 221, 33, 203, 92, 17
70  DATA 234, 6, 62, 255, 55
80  DATA 205, 86, 5, 48, 241
90  DATA 62, 224, 50, 8, 95
100 DATA 49, 252, 255, 14, 112
110 DATA 33, 8, 98, 229, 33
120 DATA 252, 94, 17, 192, 99
130 DATA 217, 1, 224, 184, 217
140 DATA 118, 201, 33, 145, 252
150 DATA 1, 76, 0, 17, 145
160 DATA 64, 122, 237, 176, 50
170 DATA 182, 64, 50, 170, 64
180 DATA 50, 174, 64, 50, 202
190 DATA 64, 62, 201, 18, 62
200 DATA 252, 50, 110, 252, 62
210 DATA 145, 50, 113, 252, 62
220 DATA 17, 78, 252, 1, 8
230 DATA 0, 237, 176, 33, 78
240 DATA 252, 34, 66, 255, 195
250 DATA 243, 254, 175, 5, 50, 92
260 DATA 103, 195, 168, 97, 128
270 DATA 223, 161, 209, 177, 144
280 DATA 141, 139, 151, 205, 198
290 DATA 199, 200, 195, 163, 255
```

SOFT AND CUDDLY

```
10  CLEAR 65530
20  PRINT AT 10,3;"POKES BY
    CAIRNPOKE (C)1988 ": LET
    CAIRNPOK=0
30  FOR C=65450 TO 65472
40  READ A: POKE C,A: LET
    CAIRNPOK=CAIRNPOK+(C-
    65440)*A: NEXT C
50  IF CAIRNPOK <>A THEN PRINT
    "ERROR IN DATA, CHUM!": STOP
60  MERGE "": RANDOMIZE USR 65450
70  DATA 221, 33, 0, 64, 17
80  DATA 120, 191, 62, 255, 55
90  DATA 205, 86, 5, 48, 241
100 DATA 175, 50, 184, 235, 50
110 DATA 145, 236, 207
```

EXOLON (AGAIN!)

```
10  CLEAR 24999
20  PRINT AT 10,4;"POKE BY
    CAIRNPOKE (C)1987": LOAD
    ""CODE
30  PAUSE 250: REM VERY IMPOR-
    TANT!!
40  FOR C=23296 TO 23311: READ A:
    POKE C,A: NEXT C
50  RANDOMIZE USR 23296
60  DATA 221, 33, 0, 128, 17, 0, 16, 62
70  DATA 255, 55, 205, 86, 5, 195, 0, 128
80  PAUSE 250: REM VERY IMPOR-
    TANT!!
90  FOR C=23296 TO 23316: READ A:
    POKE C,A: NEXT C
100 RANDOMIZE USR 23296
110 DATA 221, 33, 96, 109, 17, 160, 146,
    62, 255, 55
120 DATA 205, 86, 5, 62, 0, 50, 29, 157,
    195, 96, 109
```

Manoeuvre your lone battlecar Marauder through spinning, eye-pods, bouncing bombs and electro-hoverers. Marauders massive laser cannon crash-firing all defences to oblivion. As Captain C.T. Cobra you are determined to retrieve the jewels from eternity's remorseless grip.
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PLAYING TIPS

FLASHBACK

I've got a slightly shorter Flashback for you this month. All that flashing must have started going to your head and not to your POKEing fingers! These offerings are from a joyful person called Joy Cooper, and she comes from Lisnagry in Ireland.

ALCHEMIST

MERGE the BASIC loader and just before the PRINT USR statement type . . .

POKE 47599, 201 for infinite energy
POKE 47544, 201 for infinite stamina

ROCKY HORROR SHOW

```
10 CLEAR 65000
20 LOAD "" CODE
30 POKE 63310, 205: POKE 65311, 211:
   POKE 65312, 255
40 FOR A=65491 TO 65498: READ B:
   POKE A,B: NEXT A
50 RANDOMIZE USR 65281
60 DATA 62, 0, 50, 181, 190
70 DATA 195, 190, 131
```

MIGHT COME IN HANDY?

Here's a little routine for all you owners of DISCiple and Plus D double density disk interfaces. It allows you to enter the Multiface POKEs printed in CRASH. It's from **P Lockwood** of Burgess Hill and P says that it would be quite easy to covert for a single density drive. Just follow P's instructions . . .

First, you must make a copy of the game to be altered on a completely blank disk. Then load the routine into basic and enter the address to change and it's new value. Press a key and the change will be made. You will then be given the chance to alter any other addresses before the game autoloads.

Here is the routine . . .

```
10 POKE 23658, 255: CLS: INPUT
   "ENTER ADDRESS TO CHANGE:";A
20 LET B=INT(A/5100)
30 LET C=INT((A-B*5100/510)
40 LET D=16384+A-B*5100-C*510-64
50 LET B=B+1: LET C=C-1
60 INPUT "ENTER NEW VALUE:";E:
   PRINT "INSERT DISK TO BE
   ALTERED": PAUSE 0
70 CLS: LOAD 1,B,C,16384: POKE D,E:
   SAVE 1,B,C,16384
80 INPUT "MORE CHANGES?:";A$: IF
   A$(1)="Y" THEN RUN
90 LOAD P1
```

DAN DARE II

It's funny isn't it? 'What', I hear you all cry. Well, I ran a competition to produce some POKEs for *Dan Dare II* and I don't receive anything. Then, after the end date for the comp, I suddenly get two together! What a funny world we live in.

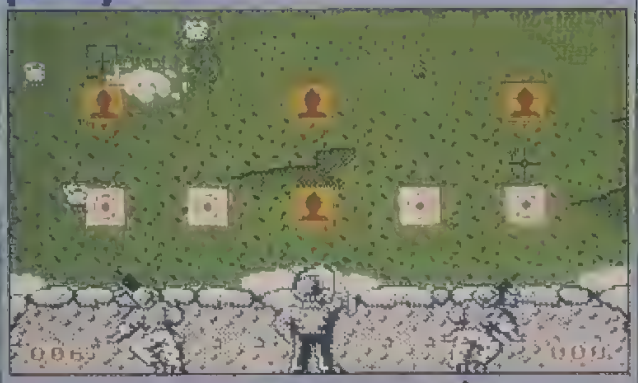
Anyway, nobody wins that Dan Dare book, so I think I'll give it to a good charity like the Paul Sumner Appreciation Fund. God knows they need donations for their one and only member, Dominic Handy! Sorry Paul, now you know! Mr **Jon North** of speedlock hack fame sent in the first routine, so here it is . . .

```
10 REM DARE DARE 2 BY JON NORTH
20 CLEAR: LET T=0
30 FOR F=23296 TO 23485
40 READ A: POKE F,A
50 LET T=T+(F-23296)*A: NEXT F
60 IF T<>1927647 THEN STOP
70 POKE 23446, 207: REM CRUNCH
80 POKE 23450, 212: REM LIVES
90 POKE 23453, 237: REM TIME
100 RANDOMIZE USR 23296
110 DATA 221, 33, 203, 92, 17
120 DATA 199, 2, 62, 255, 55
130 DATA 205, 86, 5, 48, 241
140 DATA 33, 50, 94, 52, 35
150 DATA 53, 205, 6, 93, 33
160 DATA 33, 91, 34, 31, 209
170 DATA 195, 238, 208, 221, 33
180 DATA 161, 91, 33, 131, 241
190 DATA 6, 6, 197, 221, 78
200 DATA 0, 221, 35, 6, 0
210 DATA 197, 229, 17, 20, 89
220 DATA 237, 176, 235, 54, 201
230 DATA 205, 20, 89, 225, 193
240 DATA 9, 193, 16, 229, 33
250 DATA 178, 254, 17, 255, 255
260 DATA 1, 243, 4, 237, 184
270 DATA 175, 50, 111, 255, 50
280 DATA 254, 254, 33, 176, 91
290 DATA 17, 116, 255, 1, 16
300 DATA 0, 237, 176, 33, 107
310 DATA 91, 34, 17, 255, 195
320 DATA 244, 254, 205, 110, 254
330 DATA 33, 110, 254, 17, 111
340 DATA 254, 1, 115, 0, 112
350 DATA 237, 176, 235, 54, 195
360 DATA 35, 54, 132, 35, 54
370 DATA 91, 201, 62, 64, 50
380 DATA 128, 64, 33, 146, 91
390 DATA 34, 163, 64, 195, 110
400 DATA 64, 62, 201, 50, 58
410 DATA 0, 175, 50, 118, 0
420 DATA 50, 5, 0, 195, 64
430 DATA 202, 17, 24, 14, 14
440 DATA 25, 21, 1, 96, 54
450 DATA 82, 50, 17, 14, 12
460 DATA 24, 97, 255, 51, 16
470 DATA 110, 64, 119, 0, 16
480 DATA 39, 255, 31, 0, 16
```

HOWDON HACKERS HOARD

All those Howdon Hackers seem to do is POKE, POKE, POKE. It must begin to hurt after a while! This month they've sent in enough listings to stretch from one side of the office to the other, the best of which are . . .

COMBAT SCHOOL (48K)



```
10  REM COMBAT SCHOOL 48K
20  REM HOWDON HACKERS '88
30  REM ALWAYS QUALIFY
40  CLEAR 45000
50  LET T=2048355: LET W=180
60  FOR F=38350 TO 38528
70  READ A: POKE F,A
80  LET T=T-(W*A): LET W=W-1
90  NEXT F
100 IF T<>0 THEN STOP
110 LOAD ""CODE
120 RANDOMIZE USR 38350
140 DATA 217,6,6,217,237,123
150 DATA 124,150,225,193,237,115
160 DATA 124,150,17,156,149,237
170 DATA 176,33,22,150,14,3
180 DATA 237,176,30,231,24,176
190 DATA 217,16,226,217,33,249
200 DATA 232,17,167,251,6,4
210 DATA 237,176,33,3,150,34
220 DATA 195,254,195,169,254,205
230 DATA 28,254,175,50,64,255
240 DATA 33,25,150,17,217,254
250 DATA 1,20,0,237,176,201
260 DATA 195,236,149,253,33,58
270 DATA 92,237,86,33,88,39
280 DATA 217,49,255,247,195,41
290 DATA 150,33,0,64,34,7
300 DATA 91,33,67,150,17,212
310 DATA 248,1,33,0,237,176
320 DATA 33,32,253,34,250,247
330 DATA 195,0,91,33,62,1
340 DATA 34,224,129,33,50,180
350 DATA 34,226,129,33,92,50
360 DATA 34,228,129,33,181,92
370 DATA 34,230,129,33,0,0
380 DATA 34,232,129,195,120,156
390 DATA 87,224,17,0,104,224
400 DATA 36,0,185,224,12,0
410 DATA 197,224,14,0,211,224
420 DATA 25,0,246,224,13,0
430 DATA 100,150,127,72,72
```

SUPER STUNTMAN

```
10  REM SUPER STUNTMAN HACK
20  REM HOWDON HACKERS '88
30  REM INFINITE LIVES
40  CLEAR 24999
50  LET T=0
60  FOR F=40000 TO 40028
70  READ A: POKE F,A
80  LET T=T+A
90  NEXT F
100 IF T<>2848 THEN PRINT
    "DATA ERROR!": STOP
110 DATA 33,78,156,17,26,91
120 DATA 1,127,0,237,176,195
130 DATA 0,91,175,50,173,99
140 DATA 50,141,106,195,168,97
150 DATA 127,72,72,39,56
160 LOAD ""CODE 16384
170 RANDOMIZE USR 40000
```

MESSAGES ALL ROUND IN *DOWN TO EARTH*

Over a year ago, Darren Byford wrote a game called Down To Earth (released by Firebird, it carried 47% Overall). Unknown to all who played (and hacked) it, he included some messages that appeared on the loading screen, but unfortunately they're destroyed when the game is run.

Never fear – the programmer's sent in a never-before-published POKE routine to enable the messages to be seen by all. All you have to do is use Jon North's Firebird hacker published in Issue 47 and add the following lines:

```
336 REM DARREN BYFORD'S ADDITIONAL
    POKES
340 DATA 91,14,207,224,96
350 DATA 33,145,156
360 DATA [illegible] 0,35,54,251
370 DATA 35,54,205
380 DATA 195,140,156
390 DATA 721503
```

I must just say sorry to Chris and Philip W[illegible] who did that totally screen-dumped map of Scumball for the TIPS SPECIAL. In all the chaos their names got missed off the map...so here they are now. Well done lads and I'm sorry you missed 'Neighbours' to put the map together!

Well it's time to say goodbye again (sob!) but I'll be back before you know it with another bulging PLAYING TIPS for you to ponder over. Sorry if you didn't get your name in print this month but try again next month – you may be lucky. Send in all your POKES, tips and cartography to the usual address of: NICK ROBERTS' PLAYING TIPS, CRASH, *PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB*

CAN YOU TACKLE THE HIGHER STRATEGY?

FOOTBALL MANAGER 2

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Atari St Disk	£19.99
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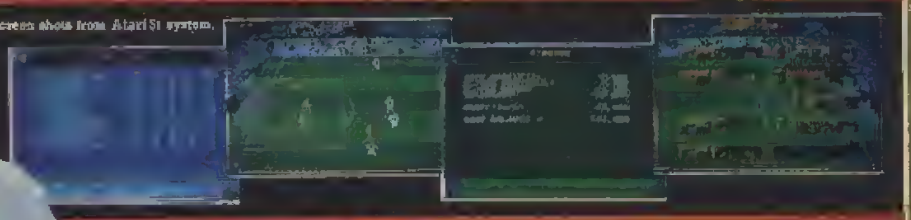
"Football Manager 2 is not just an improvement on Football Manager – it's the next generation!

GO FOR GOLD!

Screen shots from Atari St system.



IT'S TOTALLY Addictive

"Addictive games is a division of:-
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Unit 1, Baird Road,
Enfield,
Middlesex EN1 1SJ.

Street Date: All formats June 17th

CRASH COMPETITION

WIN TWO TICKETS TO SEE ENGLAND

FOOTBALL STRIPS AND SIGNED FOOTBALLS ALSO UP FOR GRABS

GOLIATH GAMES

'ERE WE GO

Now the season's over, is the lack of football in your life making you as sick as a parrot? If so, here's a competition which you'll be over the moon about, Brian. Them boys at Goliath Games have done great, and have had tactical discussions with CRASH to bring you a competition to tie in with the forthcoming release of their game *Track Suit Manager*. This, we are assured, is not a simulation of running a leisurewear shop, but a game which allows the player to plan the strategy of a football team his way, with a view to winning trophies and all those other shiny objects which give footballers something to live for apart from their hairdressing appointments.

So what fun-filled footballing fings are to be had by the lucky winners of this competition? Goliath are giving the terribly lucky **first prize** winner nothing less than a pair of tickets to the next England international match at Wembley Stadium. **Three** almost-as-lucky **second prize** winners can practise ball-play and even look like their footballing idol with the football strip of their choice. Failing that, you could still be amongst the **ten runners-up** who are in line for a football autographed by their favourite team.

What you have to do to win one of the above prizes is so simple even a . . . ah . . . even a person who isn't all that clever could do it. First of all, scrutinise the brace of footballing pics on this page. Pretty similar, huh? Well, not quite, because in copying from picture A to picture B, our skilled artists have deviously incorporated ten deliberate mistakes. Find and list all ten mistakes and you'll be half-way on the road to Wembley.

In case of a tie-break situation, there's one more thing you have to do. Imagine Goliath Games and CRASH, two giants of the computer industry, were planning to form a world-beating football team. We want you to put your thinking caps on, chew your pencil a bit, and think of a suitably apt or amusing name for our megateam.

When you've spotted all the differences and thought of a team name, write everything on the back of a postcard and send your entry not to CRASH, but to:

CRASH FAB FOOTY COMP,
GOLIATH GAMES,
46 LOCKING ROAD,
WESTON-SUPER-MARE,
AVON, BS23 3DN

All entries have to be there by August 2.

CECCO'S LOG

Stardate: 2 May 1988

All the initial discussions about the project (a name won't be thought up for another month) have been made. The contracts have been signed – I'm now on my own. Even after three years of programming games I still get stage fright at the outset of a new project.

I set about preparing fresh disks for the various micros that are to be used; as usual there are no spare ST disks about. (I don my phantom disk stealer guise and visit a programmer friend of mine – ha, ha, ha!)

Stardate: 3 May 1988

After every procrastination tactic I can think of, I sit down with a huge wad of paper and size up the minimum technical specification (supplied by Hewson) that the program must adhere to:

'Two directional, full colour, horizontal scrolling at 25 frames a second, with constant music sound track.'

Blimey! Why didn't they ask me to do something easy like walk on water?

As with any reasonably sized programming task, I always set about writing down in plain English exactly what the program is to do. I find this makes the actual coding a lot easier. I never bother with silly old flow charts – all they do is remind me of 'O' level computer studies.

The most time-critical part of scrolling on the Spectrum is the actual printing up of the moving background. The next few days will be spent developing and speeding up this piece of code to ensure that the final program really will be as fast as possible.

► Jubilation as Raf finally gets one of Nick Roberts' pokes to work!

Stardate: 6 May 1988

It's show time folks! With baited breath I set up the Spectrum ready to receive the program. Hey presto! a number of black blobs are printed on the screen. Overwhelmed by ecstatic joy I leap about the household trying to convince sceptical friends that what I've done really is an achievement. Needless to say, any delusions I had of myself actually being a good programmer are soon dispelled with cries of:

'Well that doesn't look very impressive for three days' work does it!' (ignorant minions).

Stardate: 8 May 1988

After the 'black blobs' episode, I decide that a few temporary graphics, arranged in a temporary game map will do more justice to the scrolling. Unfortunately the incorporation of the temporary graphics has also highlighted a few bugs that slipped through. Luckily they're only minor problems.

Stardate: 10 May 1988

This has absolutely nothing to do with the program but here goes. I'm 21 today and not only that, I've also managed to pass my driving test. Andrew Hewson promises to buy my Ferrari Testarossa as a 'coming of age' present. (This is of course totally untrue but one lives in hope).

Stardate: 11 May 1988

At last the scrolling looks like meeting Hewson's rigorous standards. Everything moves about the screen quickly and smoothly and I am (at last) encouraged by the positive reaction of fellow programmers. All that needs to be done to the scrolling now is add the colour.

Andrew Hewson contacts me with his splendid car phone that sounds like there's a vacuum cleaner constantly droning in the background. The reason for this hoover is to arrange a meeting where we can discuss the latest developments in the program.

▶ This is the delectable Suryani – Raffaele's girlfriend model – need we say more? (All letters from *The Bug*, please send addressed to Andrew Hewson . . .)

Stardate: 13 May 1988

Yet another phone call from Andrew (will this ever end?). He proposes the development of a Cybernoid II *project, the idea being to extend the original* Cybernoid *concept even further with new gameplay, graphics and sound. Good idea methinks; my only reservation being where am I going to find the time (I do actually lead a life outside of programming games you know!). Andrew reassures me that I am in fact superhuman and will cope admirably (yes, Andrew – and for my next trick I shall make London disappear).*

Getting the colour working has been a proverbial piece of cake. As long as I arrange the graphics carefully there won't be any unsightly colour clash.

Stardate: 16 May 1988

I'm expecting Andrew Hewson to visit at three o'clock but as usual he is one hour late – Andrew's punctuality at being one hour late is impeccable. When he finally arrives, like the man from DelMonte, he silently scrutinises my work and ignores the lavish spread of yummy biscuits that I've laid out for him). The sweat of tension rolls from my forehead. Luckily my fears of not satisfying 'the firm' are unfounded and I'm given a hearty slap on the back for being such a good lad.

Stardate: 17 May 1988

Seeing as yesterday went so well I decided to have the day off. I occupy myself by doing my infamous David Bailey impression – taking photos of anything that moves. I especially like taking photos of people who don't like having their photo taken – judging by their alarmed reaction you'd think I was pointing an Uzi at their faces.

Stardate: 18 May 1988

I start programming the main character's movement controller. This is always one of the first bits of code to be completed. I have decided that the main character will be very dynamic in its running and jumping capabilities.

The main character is the one graphic that people will be looking at most of the time as they play the game. It is therefore important that its animation and overall look are immaculate. A good graphic artist will be employed for this task – probably Nigel Brownjohn who designed the superb Exolon *character.*

Stardate: 23 May 1988

In order to get the scrolling working as fast as it is, I am using every nifty little trick I can think of, such as storing all the graphics in a pre-rotated form. This eats away at available memory like there's no tomorrow. 128 individual background graphic blocks will use a whopping 16K of ram; I'm having to think very carefully about what elements in the game are to be allocated the most memory – do people want huge maps they can explore or perhaps smaller maps and large, beautiful graphics instead? It's definitely a case of robbing Peter to pay Paul where memory is concerned. I am also trying to develop a universal data compressor that will enable me to cram as much into the Spectrum as possible.

Stardate: 24 May 1988

Hey guys, I've just found out the name of the game, it's going to be called . . . wait for it . . . Stormlord. *Repeat after me in exceedingly loud voices – 'STORMLORD!'. Apparently I was the last person to be told. Oh well, I'm only programming the thing after all. Whilst I'm here I may as well take the opportunity to plug the game beyond all reason . . .*

'Buy or die 'cos Stormlord *is gonna be the most rootin' tootin', big hot mama of a game you've ever laid your eyes on!'*

(Woah! Now that's what I call aggressive marketing – Saatchi & Saatchi eat your hearts out).

Stardate: 25 May 1988

I shall have to terminate this months 'log' a few days prematurely – publication deadlines apparently.

By the way, for the avoidance of doubt, my peculiar surname is actually pronounced 'Check-oh' not 'Keck-oh' (isn't that interesting). Until next month . . .

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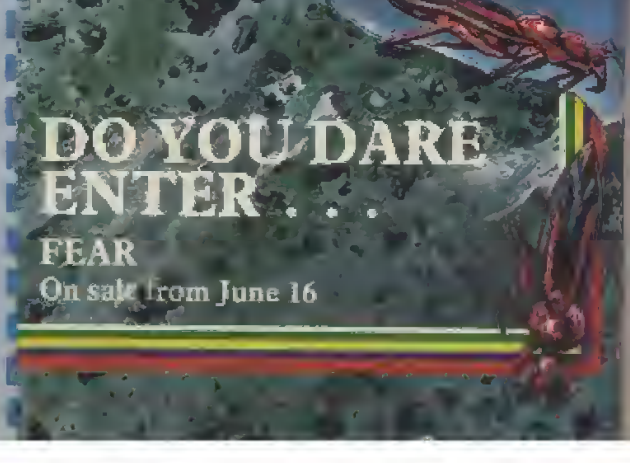

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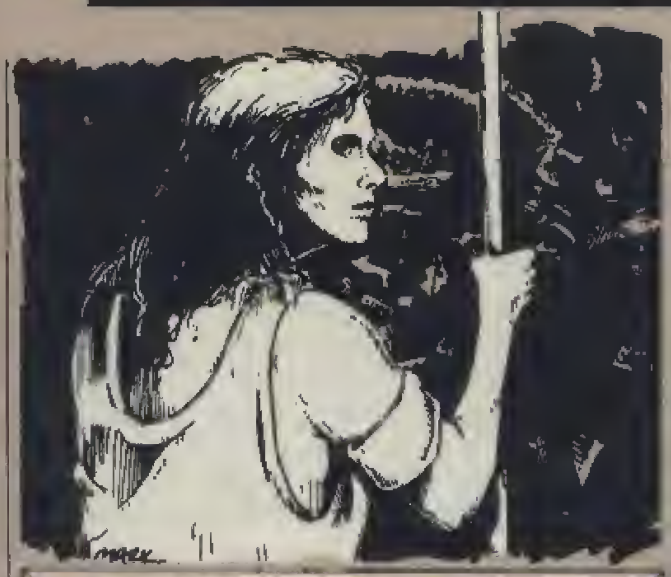
ADVENTURE TRAIL

Mat Sawbones



It's been another quiet month for adventurers. Not an impenetrable maze, windswept marsh or grassy clearing in sight – at least not from any of the larger software companies. All you can do is polish your boots, clear out your backpack and settle down with one of the quality games almost always available from the smaller software houses. Experience the Gothic horror of Jekyll's transformations into Hyde, unwind the twisted spells of magical *Skelvullyn Twine* or turn your mind to the complexity of a *Philosopher's Quest*. Failing that, just sit back and wait for next month's exciting ADVENTURE TRAIL supplement, which features an interview with Magnetic Scrolls as well as a plethora of 'stumps, news and reviews.

SKELVULLYN TWINE

Eighth Day Software, £5.50
Author: P G Pointon

Only a short while ago, peace returned to the land of Kilver. With the usurping army of General Matcher defeated, and the general himself banished to the distant fortress of Skelvullyn castle, the people returned to their comfortable farms. Nobody quarrelled because everyone drank from the Sun River; its yellow algae exuded a strong but harmless pacifying drug. Then – just as the good times were returning – the river dried up, crops failed and the country's wise man, Tolan, disappeared. The bad times are back to stay.

Nowhere is the sense of national ill-temper more manifest than in the tiny village of Skerrig where the local scapegoat and butt of everyone's displeasure is small-town official, Tam Wold. As village prefect, he has no alternative but to try to find Tolan and restore the flow of the river by himself.

The epic journey from Skerrig to Skelvullyn (and back) is divided into three parts. A separate and excellently illustrated introduction gives an extensive and atmospheric local history complete with sketch map and short resumé of Kilver legend. Well-written and packed with imaginative detail it's an unusual and very effective way of setting the scene. If you look closely, you might even find one or two clues in the graphics.

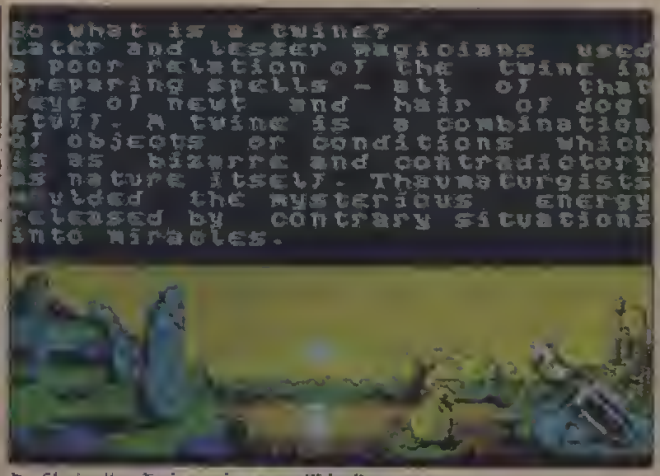
► An OS map of the land of Kilver

From the relative comfort of the village green, the quest soon takes you through far more hostile territory; treacherous mountain paths, microbe-infested swamps, dangerous forests and precariously positioned ledges are only some of the seemingly insurmountable hazards. By interspersing familiar landscape with occasionally otherworldly detail, the text (there are no graphics in the adventure proper) carefully conjures up a Kilver in which leafy forests are infested by virulent forms of giant fungi and adventurers tread where the jigbucks roam.

Exploration discloses a wealth of unusual objects ranging from humble poppy to a far more exotic plant called pfrump. Knowledge gleaned from the introduction comes in very useful here and the EXAMINE command almost always yields a helpful reply. An immense amount of attention has been paid to making the responses as user-friendly as possible. For every (extremely logical) puzzle there are one or two craftily included clues.

Deprived of their pacifying drug the people of Kilver are a pretty unpleasant bunch. It's best to steer clear of most of them and turn to strangers for help; a little interaction goes a long way. Calatrin, the desert queen proves a mine of information while the best way of getting help from other characters is to give them exactly what they want. How else would you gain co-operation from forest Leaves, Saw Beetles, hedgehogs or Gib the enormously Gross?

Skelvullyn Twine is a *Quill* ed adventure, so it doesn't accept more complex commands than basic verb/noun input. Surprisingly, I had practically no problems finding the correct words, mainly because necessary commands have been kept as general as possible. If, for ▶



► *Skelvullyn Twine* spins a spellbinding yarn . . .

example, you need to get a dandelion with the sickle and have the right equipment, simply typing GET DANDELION is enough – the program does the rest. There's none of the frustration associated with typing in 20 alternative commands and all the pleasure of getting a problem right almost the first time.

Since the arrival of *GAC* and the *PAW*, the *Quill* has been regarded as a rather primitive prototype. *Skelvullyn Twine* proves that, with a little thought, you can still produce enjoyable and marketable adventures, using an older, less sophisticated utility. Excellent presentation (including some very impressive loading screens), a sensible parser, and plenty of action make for a compelling and polished product.

Eighth Day Software are keen to promote support for the smaller software house. If they continue to produce games as complex and demanding as this one they deserve all the help they can get. *Skelvullyn Twine* costs £5.50 and is available direct from Eighth Day at *18 Flaxhill, Moreton, Wirral, Merseyside, L46 7UH.*

OVERALL 83%

DR JEKYLL AND MR HYDE – A GOTHIC NIGHTMARE

The Essential Myth
£7.95 (48K), £9.95 (128K), £12.95 (disk)

Nineteenth century literature gave birth to a whole series of sinister characters: Dracula, Frankenstein's monster and Jekyll's dangerously violent alter ego, Mr Hyde. Drawing on the more forbidding elements of R L Stevenson's novel, The Essential Myth have recast the dark tale of Mr Hyde in *PAW* ed adventure form.

The nightmare is divided into three parts entitled Dichotomies, Duality and Denouement and weaves from the relative safety of Jekyll's house through dingy and sometimes blighted London streets. As the tale begins, you are jettisoned straight into the role of Jekyll on the evening before he is destined to brew his infamous potion. He still believes, idealistically, that giving life to his darker side will be of infinite benefit to mankind. So far he has two of the three essential ingredients; your task is to get hold of the third, brew up the mixture and successfully negotiate the painful metamorphosis into Hyde. The rest of the story concerns the consequence of that terrible night.

Time passes and the everyday events of Jekyll's London household unfold, regardless of whether he chooses to involve himself in them or not. A maid of dubious repute, a loyal if unintelligent footman and a butler with strong views on his master's welfare quietly go about their business. Unless they are interrupted, their actions may seriously jeopardise the vital experiment and bring Jekyll's journey into the unconscious to a sudden, premature end.

As a result the puzzles, very much in the style of an interactive novel, are strongly linked to problems of time and place. Observation and interaction are far more important than the systematic use of objects. Realistically, there are more ways than one of solving certain problems. You can act with foresight, and attempt to prevent a situation before it arises or try and make good after the damage has been done.

The process takes a little getting used to and involves playing the game over and over again to work out the order of events; the Ramsave option definitely helps. Everything in the location descriptions, even the colour of the text, has to be taken into consideration. As long as you try to take into account other people's views, progress shouldn't be too difficult.

An oppressive Gothic atmosphere pervades. As Hyde, you can wander through the landscape of your former life, leaf through Jekyll's diary and explore the experimental debris in his lab. The occasional monochrome graphics create a grim period flavour and the slightly tortuous location descriptions (designed to imitate Stevenson's style) alter at different times of day and night.

The weather, in particular, contributes to the suffocating atmosphere. Before the storm of Jekyll's subconscious is finally let loose, the air is 'tangibly close, and almost muggy'. 'Far off yet ominous thunder' constantly threatens to descend anticipating the terrible power about to be unleashed on to the unsuspecting London streets.

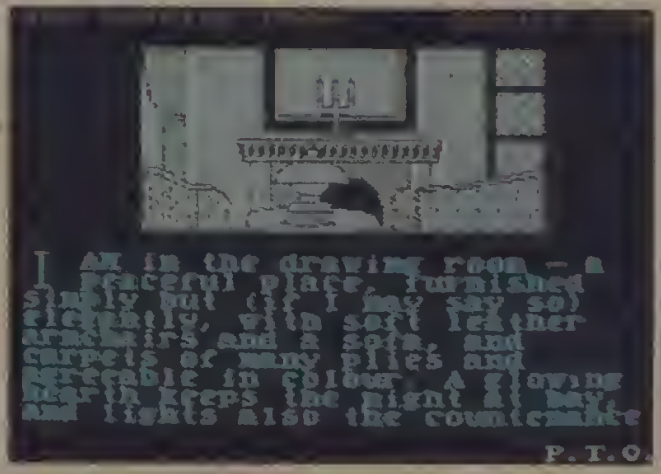
The parser is of standard *PAW* ed sophistication. It accepts complex input and allows for all the usual commands including Ramsave and REDESCRIBE. On some occasions, particularly when speaking to other characters, finding the correct input is slightly awkward but this is an almost unavoidable problem and certainly shouldn't put anyone off.

The gloomy, foreboding atmosphere of *Jekyll and Hyde* makes for an unusual and demanding adventure. By drawing all aspects of the location descriptions, ongoing events and experiences into the puzzles, the programmers have managed to suggest a link between Jekyll's subconscious and the unfolding of events. The technique may take some getting used to but it's definitely worth the effort.

At present The Essential Myth are looking for a company to publish their game on a wider commercial basis. In the meantime they can be contacted at *54 Church Street, Tewkesbury, Glos, GL20 5RZ*. The 128K versions, unavailable at time of review, should have more graphics, extended location descriptions and generally more sophisticated responses.

OVERALL 79%

► Drawing up plans for the evening . . .



PHILOSOPHER'S QUEST

Topologika, £9.95 (disk only)

Your mother always knew you'd come to a bad end. That habit you have of poking your nose into other people's business has really got you into trouble. In retrospect, it was a very bad idea to try waving that wand you found in the local junk shop while the proprietor's back was turned – in fact it was one of your worst ideas ever. The atmosphere turned inside out

and transported you into a dark and hostile cave system. While you're deciding whether to panic or make the best of it, a sinister voice charges you with the task of seeking enough treasure to pay for the misuse of the mysterious wand. Bemused and confused you begin the *Philosopher's Quest*.

Surrounded by objects, you are faced with the difficult task of taking only two on your difficult search. Try to return to collect the rest and you find that they've all disappeared. Whether you've chosen correctly is not immediately apparent. A bewildering cave system, complete with tortuous mazes (cartography is an essential skill), disorientating passages, chutes and slides, stretches before you. Weird and initially incomprehensible symbols mark the walls. A little further exploration and you find yourself on a sandy beach with paths leading to a huge pivot and a small shack named, inaptly enough, Shangri-La.

Far easier to find than treasure is a series of deadly traps and obstacles. The hazards are not always immediately apparent (who would suspect the potential danger lurking in a piece of cheese . . . ?) and you can plummet, gasp and hurtle to your doom in a variety of extraordinary and unexpected ways. Part of the pleasure comes from spotting an innocuous looking pitfall *before* it leads to death. Look hard enough and the expansive text (usually) gives you warning. All the same, saving to disk (there is no Rumsave) is well-advised.

The land at the other side of the junk shop is inhabited by its fair share of weird and wonderful creatures. Elephants, snakes, dogs, solicitors and cranky old ladies set you a series of formidable tasks. Hell-bent on performing their own particular chores, they won't cooperate unless you help or divert them first.

The challenging puzzles bear the characteristic Topologika stamp. Mostly object-orientated they are supremely logical and ask you to make sense of the unexpected with some strong, systematic lateral thought. Paint pours over you without warning, different coloured stars mark the floors, the albatross hanging from your neck just won't come off. Occasionally, a little external knowledge proves useful, though by no means essential. Knowing that the design of a set of passages is based on the paintings of Maurits Escher may enhance the atmosphere; it certainly doesn't map the maze. In any case, if you're slightly unsure about something you can always consult the carefully graded hint system without fear that it will reveal too much.

Philosopher's Quest was originally released some time ago by Acornsoft. What amounts to a complex parser isn't quite as complex as it could be. It accepts most compound inputs using AND, EXCEPT and ALL though not pronouns, EXAMINE and THEM. Perversely, the more sophisticated aspects of the parser occasionally let it down. If, for example, you are carrying a piece of clothing, a backpack or a mask, the program automatically assumes that you are wearing them. Unfortunately there's nothing in the inventory to indicate this so you can spend ages typing in WEAR aqualung, mask, suit, coat and so on, to no avail. The same goes for the lamp; it took me a few goes to discover that all you have to do to conserve batteries is type OFF and ON.

As another in the list of successful BBC games currently being re-released on other formats, *Philosopher's Quest* is definitely worthy of attention. Its convoluted puzzles, tantalising locations and unexpectedly awkward twists are bound to keep you playing feverishly for quite some time. At a retail price of £9.95 it's available direct from Topologika at *FREEPOST, PO Box 39, Stilton, Peterborough, Cambridgeshire, PE7 3BR*

OVERALL 85%

CUSTERD'S QUEST

C BURNELL wants to know how to get through the door to kill the dragon – preferably without being splattered by a huge boulder

RALPH ASH and GARY SUFFERN are suffering in different parts of the country. The evil green door still defeats them.

Get the armour from the chest and wear it. Give the treasure to the dragon.

THROW BOMB, THROW AXE, THROW PHOTO, WAIT

SPIDERMAN

PATRICK COATES is having a bit of bother defeating the Sandman while MR S R LAWSON, last month's *The Pawn* superhero, would like to know what to do with the thermostat.

CLIMB CEILING before you enter the room. Examine the crib twice and take all.

Set the thermostat in the penthouse to 31°F. Hydroman should freeze. Collect the aquarium and take it up to the penthouse. RAISE the temperature; this should enable you to collect the gem.

THE QUEST FOR THE HOLY GRAIL

The Aramaic phrase book and the Book of Armaments have proved futile in getting past the knight called Nic. DAVID HOBBS is quietly tearing out his hair.

Give Nic the shrubbery.

THE LEGEND OF APACHE GOLD

Letters are coming from further and further afield. JOSE ANDRE from Setubal in Portugal asks:
1 How do I get the ants' nest and the fern?
2 How do I use the bottle and corn?
3 How do I make smoke signals?

1 EXAMINE ant hill. Get the manure using the sack, then SPREAD MANURE.

2 FILL BOTTLE at waterhole. CUT CACTUS and fill the bottle again. REPAIR DISTILLER using the pipe of peace and MAKE MOONSHINE.
3 Throw the dirt into the fire. When puffs of smoke appear, invert the spirit stick and wave it.

(Thanks to GEOFF BLAKEY)

BUGSY

José again. This time he wants to know how to buy a car and what to do with the business card.

Simply type in BUY CADILLAC.
The card gets you into the Hilton Plaza. Take the valise to the hotel and drop it. After you have been forcibly removed, get into the car and wait.

(Thanks to SANDRA SHARKEY)

EUREKA

DAVID GARDINER can't find the polish and doesn't know how to blow up the bridge.

Give the cigarettes to Sergeant Bruiser.
Place the dynamite, go up, go south, then USE DYNAMITE.

KENTILLA

Yet more questions on this excellent adventure. This time from SUNE WATTS, Denmark, who can't find the moss and WILLIAM BROWN, not from Denmark, who wants to know how to bail the water out of the boat, and where to find the conchshell.

EXAMINE RIVER to find the moss.

Bail with the silver chalice – it's in the black sack found in the chest in the treasure room. DIG SAND on the beach to find the shell.

MASTERS OF THE UNIVERSE

GEMMA RYDER wants to know:
1 How do I get rid of Evil-Lyn and Mantanna?
2 How can I kill the scorpions?
3 How can I remove the beadfrom the abacus?

1 Jump to avoid Evil-Lyn. Attack Mantanna with your sword.
2 Attack them with the sword.
3 REMOVE BEAD. Ignore the cuboid and the crack – they're red herrings.

ADVENTURE TRAIL

THE BIG SLEAZE

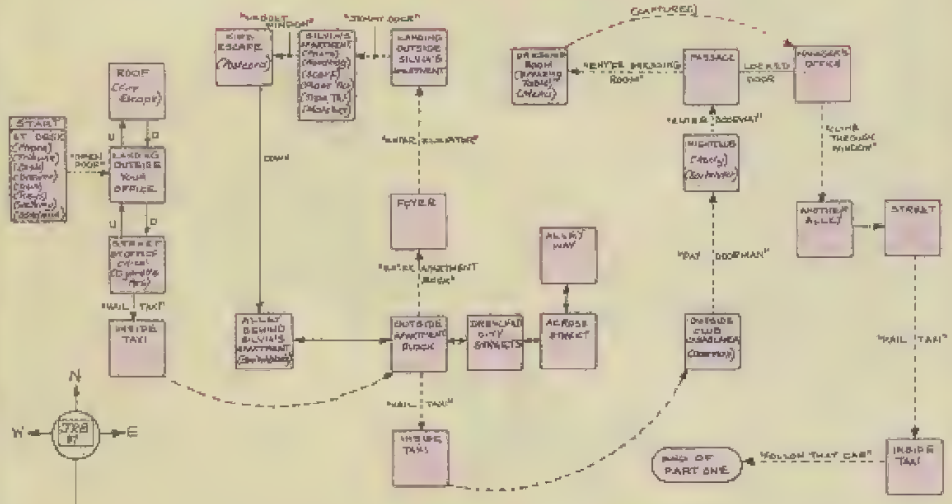
It seems that my hint in Issue 52 was a bit obscure. STEVE ENGLISH still can't get the flashlight because he hasn't found the grille.

Push the obelisk. Use the crowbar (found in your coat) to open the grille.

WIN A £30 SOFTWARE VOUCHER!

We were so impressed at receiving a map in the post that wasn't addressed to Nick Roberts that we've thrown caution to the winds and have decided to offer a £30 software voucher to the sender of the best set of adventure tips, hints or maps received EVERY MONTH from now on. Stop somersaulting around the room, don't go mad with amazement – just get cracking and send your phenomenal facts to SAMARA'S SIGNSTUMPS, CRASH, *PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB*

PLAY IT AGAIN, SAM PART ONE



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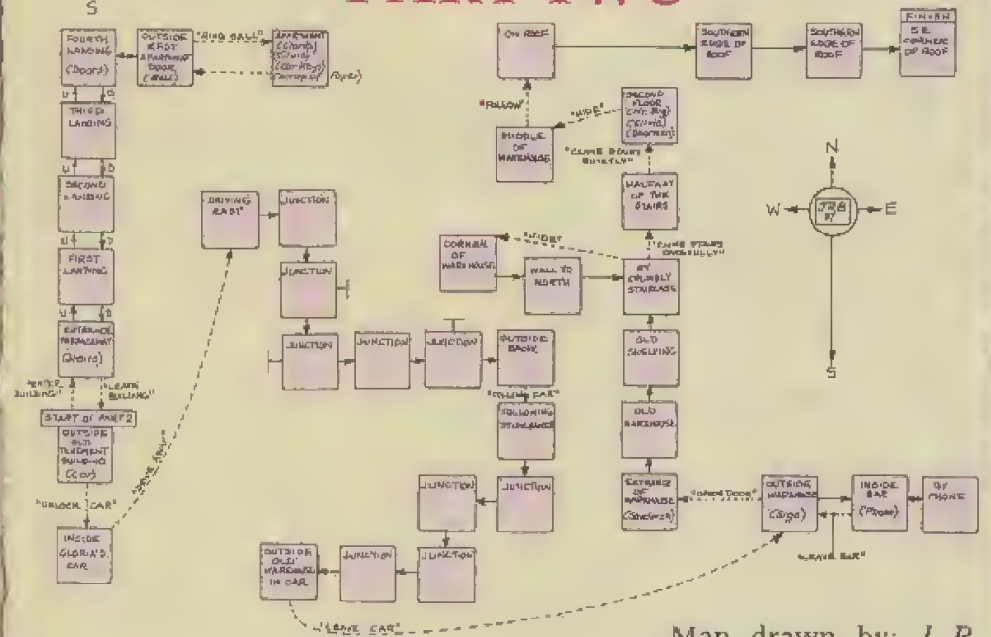

Map drawn by: *J R BARNSLEY* – £30 software voucher on its way to you J R

KAYLETH

MR and MRS MAROUF like to relax with the odd adventure after work but this one has them stuck. They're desperate to know:

1 How to get past the droids in the guard dome.
2 How to become Yurek.
3 How to avoid the plants after going through the bricked exit.
4 Where to find the bulb.

1 Insert Masta before you enter the dome to enter the hover. Leave the dome and insert Serta for access to the corridor and the c-emzs machines.
2 Put the ore from the mine in the chute of the c-emzs machines to get a tube. Insert Yurek and the tube into the indentation on level M2.
3 You can't get past the plants as a droid, only as a human.
4 Take the steel ball from the crater with you through the bricked exit and put it in the hole.

CATCH THE VIRUS

SAEC have launched a competition in conjunction with the release of their latest game *Virus* (65%, last Issue). Anyone who has bought a copy of the game, and manages to solve and map the adventure stands to win a Spectrum +3. Details direct from SAEC at *4 Kilmartin Lane, Carluke, Lanarkshire ML8 5RT*

IN RETROSPECT

Stephen Flint, author of Teenware's *Enter At Your Own Risk* (60%, Issue 53) has asked me to mention that he has modified his game in response to last month's review. It now includes an extensive VOCAB command, a wider range of possible inputs and an enlarged vocabulary. Anyone tempted to order the game from now on will receive the amended version.

Hassled? Harrowed? Helpless? Happy? Send your tips and queries on adventures old and new to SIGNSTUMPS, CRASH, *PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB.*

The most interesting are published but I'm afraid that personal replies are not possible.

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Eye of Newt
Blood of Rat
Bring Me The Powers of Vision & Combat!

screenshot from CBM version

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WOW!
I'LL BIVE ONE OF THESE BUTTONS A SHOVE...
HAH!
SCHFF
SLITHER
HOP
DING
WOW! LOOKS LIKE OUR HERO GOT A 100 TON OVERCOAT... THIS COULD GET REALLY SILLY..
NEX' MUMF!

CYBERNICK – THE ULTIMATE FIGHTING MACHINE?

In the wake of Robin Candy's success in the *Star Wars* challenge, Nick Roberts has thrown down his paisley gauntlet and is determined to preserve the honour of CRASH. Will he be able to complete Hewson's *Cybernoid* without typing in one of his POKEs? Roving reporter Kati Hamza tells all . . .

WE return to CRASH Towers where the team of reviewers, ably represented by the lovable Nick Roberts, is about reveal whether its recent success was just a flash in the pan. Only two months ago, streetwise Robin Candy proved that you *can* work for CRASH *and* win a challenge – provided you're cool enough to make up the rules. Spurred on by Robin's rock-star image, and desperate to build up one of his own, cheeky Nick has gone on a CRASH-course diet (cholesterol-free chip buttties and low-fat jam rolls), acquired a pair of ultra-dark reflector shades (actually they're Joo-Janta 500 pan-chromatic peril-sensitive sunglasses through which he can see absolutely nothing) and has been mugging up on the latest in trendy street-speak. Anything Candy do can Nick can do better.

It's drizzling steadily outside. Convinced of an ill-omen Jarratt, the team coach, gets out his rabbit's foot and begins to pray. Surely we're not about to lose again . . . The office shivers with anticipation as the awesome arena is prepared.

SMART ELLIS

The challenger, Stephen Ellis from Stoke, has already arrived. Accompanied by a large entourage of friends and relations, he practises quietly in the corner producing a list of phenomenal scores. At 14 he already has an 'O'level in Computer Studies and is due to take his 'A' level next year. Fortunately Nick can't hear any of this—he's slaving away over a hot examination desk taking his Maths GCSE.

When he finally does arrive, casually waving his home-made (Blue Peter-style) sticky-backed plastic filofax, the Tips master fumbles in his pocket only to realise he's forgotten his ultra-hip shades. Rapidly hiding his packet of not-very-low-fat crisps he assumes a Candyesque stance and resorts to his well-rehearsed street-speak: 'Hey breadheads, let's groove on down and get hip to the beat.'

Stephen looks blank. Nick's slang dictionary is slightly out of date so the team coach, the only person old enough to remember the 60's, translates. The epic challenge, played over three full games, is about to begin.

READY, STEADY, GO!

Nick picks up the mace and zooms through the first eight screens. Stephen hesitates on screen two, collecting more and more jewels, before finally moving on with a massive treasure score of 1050. As the game continues, numerous relatives, crowding around the

► CyberNick passes on the customary CRASH goodies to the vanquished challenger, Stephen Ellis

monitor, chip in with bits of helpful(?) advice. Both players negotiate pipes, rockets and bullet-belching plants with minimal use of shields. With a cry of 'heavy!', BeatNick comes a cropper on a piece of caterpillar but quickly joins Stephen on level two.

Nick speeds through the first two screens and proceeds to get killed on the third. His exclamation that he is on 'like, a total downer', distracts Stephen into collision with one of the pirate ships. From then on, both games go downhill. Stephen loses his last four lives in quick succession. CyberNick survives to within two screens of the third level before his luck finally runs out. Flushed and exhausted, the competitors break to compare scores and, hopefully, gloat.

STEPHEN: 33126
NICK: 43901

Nick tries to look disinterested – as if he knew it all along – but, despite valiant efforts, can't wipe the huge grin off his face. Stephen, who normally scores around 80,000 (or so he says) only looks a little downcast – he's still got two more chances to beat groover Nick into a palpitating pulp.

As they begin the second game it looks as if the tide is about to turn. On the sixth screen disaster strikes: with a paltry score of only 1600, Nick's first life fizzles out. Stephen is so busy laughing that he loses control; his ship comes to grief in a hail of enemy bullets. Still grinning, Nick zooms to the end of the level without further mishap.

Stephen's brothers are leaning so far over the keyboard, back-seat-challenging, that he can hardly see the screen. Miraculously, both survive to the end of the level and hurtle into the second stage (Nick and Stephen, not Stephen's brothers).

Suddenly Stephen gets stuck on a set of pipes and loses three lives in quick succession. A few desperately collected treasures gain him another life – which he promptly loses on the next set of pipes. His game is over half-way through level two. Meanwhile, Nick bursts into level three with a massive 67207 points and a severe case of greed. Due to a twitchy finger he fails to engage his shield at the right time and loses his third life on a beehive gun. He survives long enough to make it to the second treasure screen and a bonus of 1310, before he promptly bites the dust. The final score:

STEPHEN: 44257
NICK: 72850

Nick's on the phone to a worried tipster so he hardly has time to rejoice at the score. Almost everyone else is celebrating as they watch the team-coach dancing around the room with his rabbit's foot. It's unheard of, beyond belief and totally astounding – two successes in a row with no cheating . . . CRASH history is being made.

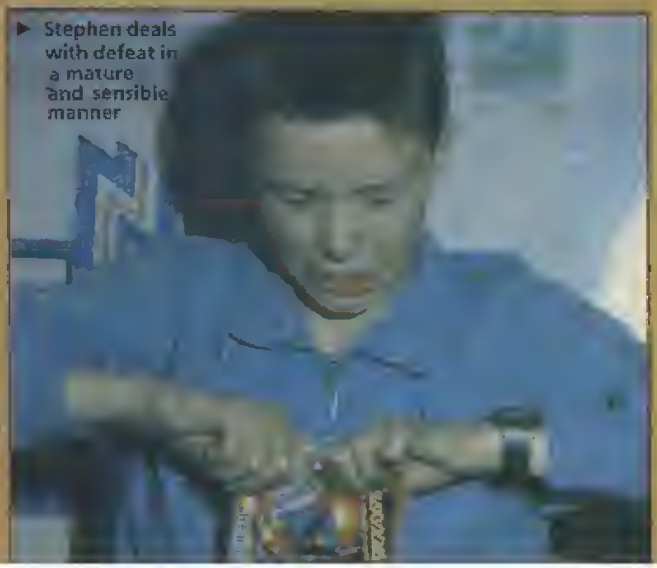
[illegible]

Flushed with success, ('It's, like, far out Man') Nick agrees to a third bout. As they race through the first level someone asks him for a *Head Over Heels* poke in an attempt to put him off – but to no avail. Stephen, meanwhile, is so excited by the multiface pokes in the June issue that he pauses the game to tell his dad. In the resultant confusion he loses his first life on the second screen and begins to look visibly depressed. Still – along with the eminent tipster, he makes it to the second level.

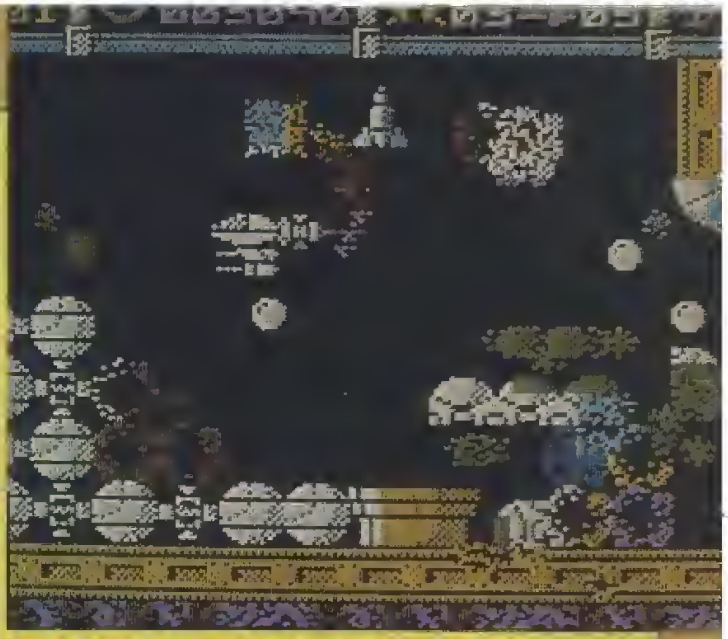
Nick surges ahead using no extra weapons before reluctantly giving up a life. On the other side of the room, the relatives are mourning the quick loss of all of Stephen's ships. Defeated, he takes solace in his software voucher and crisp, new CRASH cap. Nick, seemingly unstoppable goes on to reach a personal best in terms of distance. Half-way through the third level his stupendous effort comes to an end.

STEPHEN: 33726
NICK: 77780

The challengers shake hands. Stephen's entourage shake their heads, and the CRASH team shake with relief. Stephen and co. head back for Stoke while Nick settles down to his bag of crisps and begins to philosophise. Everything the Candy Man can, Nick can do even better. Skill obviously lies in the podgy fingers not in the shades. He basks in the glory of his triumph and agrees to sign the odd autograph – for himself. When all the hullabaloo has died down he prepares for an afternoon of relaxed Tips editing. Apart from the occasional giggle and rustle of crisp bag coming from behind his monitor, you'd hardly know he was there . . .



▶ Stephen deals with defeat in a mature and sensible manner



THE LEAN MEAN FIGHTING MACHINE

HEWSON'S *Cybernoid* soared to success with a CRASH Smash rating of 96% in Issue 51. Contracted by the Federation to combat a pirate raid, the sophisticated fighting machine is equipped with an arsenal of different weapons. Firing lasers and bouncing bombs, the ship weaves its way through the planet's activated defence systems. Only the most competent pilots survive to tackle the third and final level.

Cybernoid is the latest in a series of hits programmed by Raffaele Cecco. His previous games include *Equinox* (87%, Issue 34), *Solomon's Key* (78%, Issue 45) and *Exolon* (90%, Issue 43). Though clearly all different, their characteristic effects and explosions have become known as something of a Cecco trademark.

Preparations for a new horizontally scrolling release are currently being made. Read all about them in *Cecco's Log* on page 84 . . .

CHALLENGE PHIL KING!

New boy Phil King is determined that the reign of CRASH reviewers is to continue unbroken, so he's ready to pummel some poor CRASH reader into the deck at *Match Day*. If you're foolish enough to even consider yourself worthy of the challenge, fill in the form below and send it to: CRASH Challenge, CRASH, *PO Box 10, Ludlow, Shropshire SY8 1DB*.

You too could savour the ultimate embarrassment of being beaten by a CRASH reviewer . . .

Dear Phil,

I am incredibly good at *Matchday* and have thrashed the computer on the highest skill level by the following margin:

.....

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ADDRESS .....
.....
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TELEPHONE NUMBER .....
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Should your score be huge enough to warrant more than just a passing glance, we'll pay your fare to Ludlow and home again, wine and dine you (well, coffee and a ploughman's) and gloat ever such a lot when you lose.

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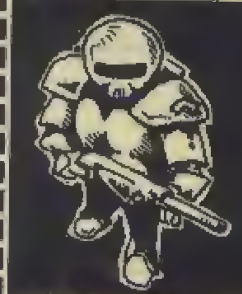

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FRONTLINE

with Philippa Irving

OLD WARGAMES NEVER DIE . . .

OBSERVANT readers of FRONTLINE may have noticed the non-appearance of the column over the past couple of months. The reason for its disappearance was simple and highly unfortunate: a complete lack of strategic releases for the humble little Spectrum. With any luck CCS's latest game *Stalingrad* should be out in time for review next month, but in the meantime the loyal wargaming readers of CRASH will be deprived no longer . . .

Following on from the 'short-range' retrospective in the STRATEGY SPECIAL I've decided to do a round-up of a few very interesting antiques; games so old that quite a few of you who have started wargaming in the past year will have missed them. As I've often pointed out, thinking games like strategy and adventure haven't progressed at the breakneck technological speed of their arcade counterparts and a wargame published in 1986 is by no means hopelessly out of date in 1988.

In fact I would like to start by peering further back into the mists of time and looking at two games that I still consider to be amongst the best ever released for the Spectrum – in any category. They are Mike Singleton's *Lords of Midnight* and *Doomdark's Revenge*. When it first appeared, *Lords of Midnight* caused a sensation in the Spectrum gaming press on account of its astonishing use of 'landscaping' graphics. The player begins the game in control of four characters leading armies against the semi-supernatural Doomdark, and when, at a keypress, he takes on the part of one of them, he sees the character's surroundings through his own eyes. He can look around in all the compass directions and see hills, trees, towers and lakes nearby or in the distance. The illusion of three-dimensionality, even though it is only created by clever mathematics and a few skilful line-drawings, has to be seen to be fully appreciated. This illusion cloaks what is really a very straightforward cardboard-counters wargame of troop movement across a square-by-square map. There are standard rules regarding terrain, morale and leadership influence, and one of those 'nasty demon hoards from the north' fantasy scenarios. But it works magic on these elements and is a distinctive and fascinating game.

Doomdark's Revenge takes it all a stage further: the map is much larger and the colour of the graphics represents different times of the day. Instead of fortress commanders who are automatically on the player's side once contacted, the land of Icemark is dotted about with individual characters who may or may not decide to side with Luxor the Moonprince. I must admit that although I spent many wonderfully happy hours playing this game when I ought to have been studying, I never even got remotely near completing it. My military endeavours always ended in humiliating massacres, and I expended all my energies in making a painstaking map and trying to make a record of all the inhabitants of the land. Rarely have I had such a sense of involvement with a computer-created world. I would recommend these two masterpieces to any strategist who hasn't played them.

SOFT SELL

In February 1986 a 'little' game called *Just Imagine* was reviewed by my predecessor Sean Masterson; he gave it a tepid 59%. Although the game is flawed in that it's virtually impossible to complete, it *is* highly entertaining and tackily addictive while interest lasts. It's a 'pure' text strategy game, and puts the player in charge of a new software house. This scenario has the advantage of allowing the author to indulge in in-jokes and is likely to appeal to the player rather more than the dictatorship of a banana republic would.

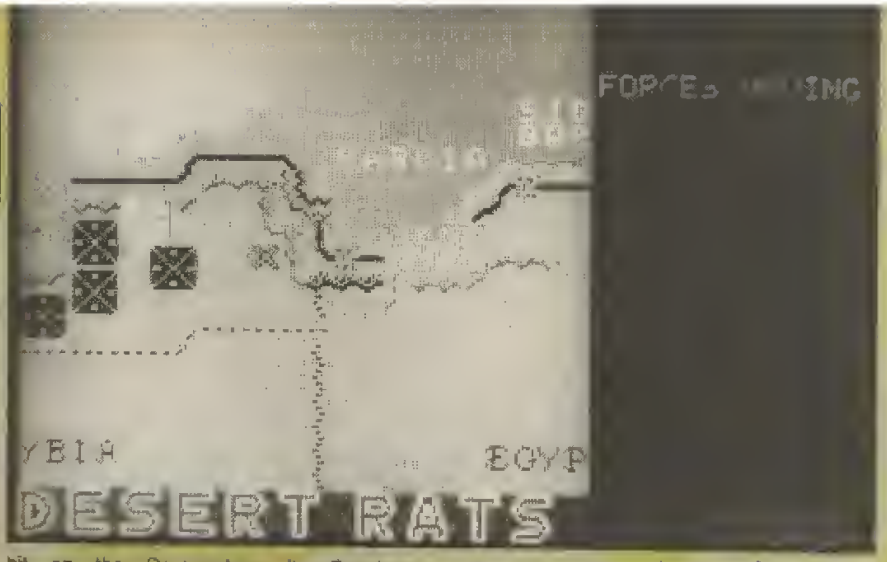
In a fixed sequence of choices the player is asked to name his company, choose his game from a selection of three, name the game and decide upon various aspects of packaging and promotion. An initially refreshing element of humour becomes unbearably facetious by Turn 20. Random elements like good and bad reviews or break-ins have an influence on sales, which are analysed at the end of the turn. If the game has done very well it might get into the top five. The player has to judge how much to charge for the game, how many to produce in a particular month, and how far to continue promoting it after the first couple of months when sales are inevitably at their highest. If the player does particularly well he can take on another game – and that's when it starts to get complicated. There are a sufficient number of possible permutations to give the player a sense of satisfaction and involvement . . . for a while, at least. After the first year the competition begins to hot up and the dreaded scourge of piracy starts to drain profits so drastically that it soon becomes impossible to stay in business. Certain random and unpredicatable disasters are liable to wipe the business out too. Frustration eventually sets in. A friend of mine hacked and customised this game for me because I enjoyed it despite its flaws, and he was of the opinion that it was uncompleted in its original form. I was told, however, that PSS may have plans to re-release it in a revamped, updated version. I think it's still worth playing – just for fun – as it is.

Their Finest Hour, from Century Communications, was awarded a CRASH Smash and described as 'the finest wargame currently available to Spectrum owners'. It is a simulation of the Battle of Britain, presented in slick icon-driven style in *The Fourth Protocol* mode; still a bit of a novelty at the time of release. The player can choose the speed of the real-time play, which can be paused at will, and may attempt a single-day or campaign scenario. The continuation, day-by-day, of the campaign is dependent upon Churchill's assessment of your progress. If you've done particularly badly, he may decide to remove you from command. The player does not engage in any direct combat, but moves the airforce into various stages of alertness, sets levels of flak, looks after the health of his pilots and makes sure that the planes are kept in good repair. When combat occurs the player selects the 'aggression level', which determines how likely the RAF squadron leader is to break off the attack before heavy casualties have been suffered. The packaging is impressive, and the documentation useful and well laid-out.

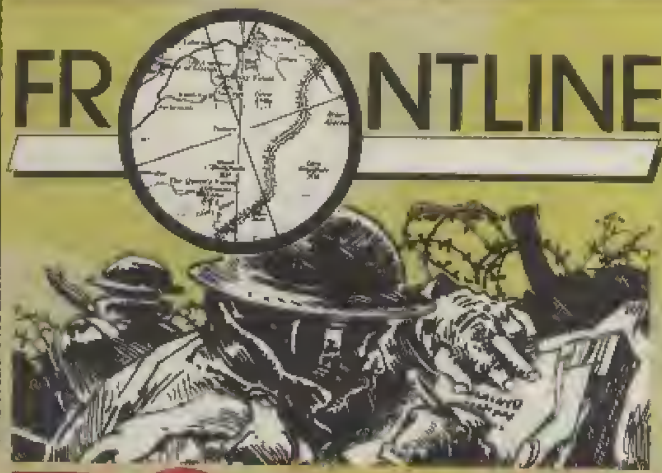
A COMPANY OF RATS

In the same month, *Desert Rats* came up for review. The original 48K version was less impressive than the 128K version, which has clearer graphics, more scenarios and better artifical intelligence routines. But *Desert Rats* is worth buying even if you've got a humble rubber-keyed 48K, because it's well above the average standard for a traditional hardcore wargame. It recreates the whole of the North African campaign, from Rommel's arrival there, in the spring of 1941, to his departure at the end of 1942, in five separate scenarios and one 624-turn epic. The mechanics of the game are straightforward and should be familiar to those who have played board wargames. Units are represented by symbolic squares and equipped with the usual variety of defining parameters, terrain has its effect, hidden movement is employed and play progresses in structured turns. The presentation is polished, the playability excellent and the potential for strategic complexity is great enough to keep any purchaser engrossed for a long time.

In July of 1986 *Theatre Europe* was first reviewed on the Spectrum. This was a wargame from PSS which had been a surprise



hit on the Commodore; its Spectrum incarnation is just as entertaining and intriguing, although it lacks the chilling sound effects. It deals with the possibility of confrontation on a European battlefield between NATO and the Warsaw Pact. It's a war which starts off with a front line of conventional forces facing each other somewhere in Germany, and can quickly escalate into the destruction of civilisation as we know it. *Theatre Europe* is certainly designed to include a moral in its game structure. Any kind of war between the superpowers is charged with the danger of escalation, and once such escalation had started the probable end would be disaster for both sides. It's a tribute to the skill of the author that this lesson is taught whilst destroying the playability of the game. Winning *Theatre Europe* is a matter of making the most effective use of conventional forces, and keeping out of the chemical-nuclear escalation at all costs. On the first of three levels this is easy because the computer does not take the initiative in launching such attacks, but the difficulty of winning with the NATO forces is just enough to make the odd chemical strike a temptation. On the second and third levels the computer opponent makes free use of chemicals, and if the player retaliates he may get an unequal return. Setting the reflex system option is deadly, because any strike made by the computer will be repaid immediately. Before long 'Fireplan Warm Puppy' will be triggered; both sides discharge their entire nuclear arsenals over each other's territory. The game is trimmed with some atmospheric novelties, like the deadpan NATO computer and the real phonenumber which the player must ring to obtain the authorisation code for a nuclear



FORUM

Due to my non-appearance of late, I have some catching up to do on the letters front. Included here are one or two old ones which have not been featured before. Apologies to those involved for the late response! However, I'm still here, so keep them coming!

Dear Philippa,
I have been meaning to write to FRONTLINE FORUM to voice my opinions of strategy games for sometime. I have had my Spectrum for almost four years now and in that time I have decided that strategy games are my favourite element in computer gaming and I have quite a few.

It all started with *Lords of Midnight* (often mistakenly classified as an adventure because of it s fantasy setting). Since then I have acquired many more: *Johnny Reb, Doomdark's Revenge, Their Finest Hour, Vulcan* and *Theatre Europe* to name but a few. As you will notice only *Their Finest Hour* and *Vulcan* are based on actual conflicts. Why? Well, I feel that re-fighting battles won (and lost) is no real challenge, unless there are options to change the scenario, as in the 128K version of *Vulcan*, because you can always find out how the battle was won, or, if you are playing the loser, what he should have done, in retrospect. Some may feel different and I suppose I might have started something here. Personally I would like more 'What if?' scenarios like the 128 *Vulcan*.

One of my major points is on the front of fantasy/SF wargames. This is a vast area which has gone largely unexploited. In such games the limitations of the units need not be so restricted. *Rebelstar* is a game which interest me enormously in its conception. Being an SF hybrid of its predecessor *CHAOS* (also by J Gallop – incidentally, it's now out on budget, why not give it a proper review Philippa?) it concentrates on different characters, variously equipped with differing capabilities. As a two player game it is most enthralling. 'Which character can make the best use of Leader Krenon's photon gun now he's dead? Is it worth the risk of getting shot and possibly injured to retrieve it? What if the enemy gets it and uses it against us?' There are so many different possibilities to take into consideration in the two player game it makes your head spin!

The use of different weapons (and other articles) is well thought out. The way you can take a dead character's weapon be he friend or foe, is most realistic. Also when a character is killed in a doorway, it is blocked open until he is moved, leaving anyone behind him open to enemy fire – another realistic feature, as is opportunity fire (you can fire back and over your buttl). A sequel to *Rebelstar* would be most welcome (are you reading Mr Gallop?) It would be interesting to develop this type of game so that you could only see areas where your characters/units can see, a la '*Vulcan* et *Shadow Fire*'.

It would seem to me that strategy game programmers are lacking much in imagination. When a new idea does come out it is usually poorly implemented. Why not have a game based on an imaginary wild west gunfight. Mr Gallop's style would work well here, or a battle between the police of the future and hostile rebels set in a futuristic city. A small, vastly outnumbered, but organised force against a huge leaderless army is always interesting. I am very surprised that battles from fantasy/SF books have not been licensed. How about the battles of Helms deep and The Pelanor Fields from *Lord of the Rings*? The latter is discussed in some depth in one of Tolkien's unfinished books. We could also have The Illearth War from the Covenant book (a VERY interesting scenario there) and the battles of the Alends and Arigaraks from the Belgariod book. The Fedaykin versus The Sardakaur from *Dune*. Need I go on? I only wish I could programme, then we would see!

What would also be interesting in these games is the introduction of magic.

Onto the moral dilemma you discussed in issue 51. I would not harm a fly, but if anyone other than a qualified brain surgeon tried to put a hole in my head or those I care about, I would try my hardest to stop him/her and if that means killing, then so be it. Playing wargames does not lessen my appreciation for life – if anything it enhances it. Think how lucky I am that I was not involved in any wars. *Theatre Europe* makes the point well, the idea being not to invade East Germany, but to defend it long enough for the Communist bloc to admit defeat. Although I do not agree with how the Warsaw pact is made out to be the bad guys; I doubt they would nuke the western world just because they could not invade West Germany. However, obviously, some war scenarios should definitely be avoided. I doubt anyone wants to see a game based on Northern Ireland or Lebanon.

Perhaps, someday, when a wargame has graphics like *Lords of Midnight*, has the individual realism of *Rebelstar*, the technical finesse of *Vulcan* and is based on one of my favourite fantasy wars, then I will be satisfied. Until then I hope I've sown some fertile seeds on fertile land.

PS. Has anyone out there got the excellent *Formula 1* by CRL? I'll swap ANY game for it!

Trev Smith, Leicester.

A review of CHAOS *seems like a very good idea. I'm getting so desperate that I'll review anything!*
PI

Dear Philippa,
I am writing to you in connection with the *Battle of Britain* by PSS. I am very interested in this conflict and I think that this is the best simulation of the battle, although there is one stupid thing about the game: in the actual battle pilots were up at 4am and they stood down at 9.30pm (except defiants). In the game as soon as you start

strike. Although strategic depth is fairly limited, all wargamers should try *Theatre Europe*. It's now available as part of the *Conflicts* series from PSS, at a bargain price.

ISLAND-BASHING

Iwo Jima, also from PSS and reviewed in July, is a reasonably good game for a beginner. It involves the capture of the island of Iwo Jima by landing American forces. 'Island-bashing' games have a neatness about them which is satisfying; all troops are brought in from the outside, and all you have to do is roam about the self-contained map until you've rooted out all the enemy units. Essentially, that's all there is to *Iwo Jima*. The graphics are unimpressive but functional. Options are limited to movement and combat, with a few rudimentary terrain effects. There is little in this game for the more experienced wargamer, and I fear that the shoddy presentation might make a newcomer suspect that all strategy games look amateurish. If he *is* able to ignore the aesthetics, the beginner will find *Iwo Jima* a good introduction to 'serious' wargaming.

Rebel Star was given a Smash in August, and is available from Firebird at £1.99. This was a re-release of a vintage classic, and is still fun to play. In a very simple yet involving strategy game, the player is given the task of trying to break into a diagrammatic starbase using a team of characters and robots with specific abilities and weaknesses. The first problem involves using the combined capabilities of this team to get a door open. Then the player has to co-ordinate the characters to overwhelm the defences of the starbase. The computer opponent is fairly intelligent and puts up a structured resistence. Play is straightforward and long-lasting, and at this price it's difficult to go wrong. Very much an alternative for the battle-weary.

Another game with a sci-fi background appeared in the September issue, from Argus Press Software Mind Games – *Mission Omega*. The player has one hour of real time to shut down the reactors of a mysterious but unquestionably hostile piece of apparatus making its way to Earth. The game is icon-driven and represents a blend of strategy and arcade. You must build robots, juggling the resources available to you, and send them on to the Omega vessel to locate its reactors. Someone who only enjoys troop-moving wargames may not have much time for *Mission Omega*, but more broad-minded strategists should find it an interesting challenge.

Johnny Reb II, from Lothlorien, is a traditional wargame set during the American Civil War. The presentation is good, and the range of orders allows varied strategies to be employed.

The November issue saw the release of another traditional battle re-construction, *Napoleon at War* by Ken Wright whose games are all similar in style. *Napoleon at War* reconstucts the Russion campaign, and allows the player either to give orders to individual units or to the corps commander. The latter option more accurately recreates the uncertainty of command under real field conditions, and can result in queries from the harried commanders. This excellent game is well up to the author's usual standard and certainly worth acquiring for any wargame collection.

With any luck I should have some new releases to comment upon next month. In the meantime, have a good look at the back-catalogues of the wargaming software houses and see what you might have missed.

---

the day the Luftwaffe came across in two waves and that's the end of the day. It usually lasts from 8am to 10 or 11am which is stupid, since lots of raids didn't usually come in until late afternoon. It would be great if the days lasted the same as the battle, and an hour or so our time. The game is so predictable, plus the Germans sent over their 109s to flush out the RAF. The game doesn't simulate that, which is a big disappointment.

I think that almosphere has as much part in the game as the game itself. Even if I was sitting there nearly all day, (game time) and just one recce came over, then the next day they came over in the massed formation, the atmosphere in the game would be great.

I wish Mr R T Smith of *Vulcan* fame, would do a *Battle of Britain* for just the 128. He could do a fantastic version; he could make it so realistic. I would even pay a lot of money if it was that good. Can't someone bring out a really good *Battle of Britain* game?

Is there any chance you can get the POKEs to extend the time on the *Battle of Britain*? You haven't got time to do anything like moving one squadron to another airfield before the Germans come over. The game must be able to be POKEd as it is. As far as I'm concerned, I don't have a chance to enjoy the game because it plays so quickly – and that's on the slow speed! Instead of adding rubbish like a title screen and the Blitzkrieg, they should have used every ounce of memory on a really good game. Please could you help me out, I can't express enough how much I want a good *Battle of Britain* game.

David Carl

If this was ZZAP!64, I would receive 20 letters next week saying 'You should try the SSI game . . .' Finding another Battle of Britain simulation on the Spectrum is more of a challenge. Can anybody help David?

Dear Philippa,
As a relative newcomer to the strategy scene, I'm keen to make a contribution to the general discussion. I have purchased both of Ken Wright's most recent game, Yankee and *Blitzkrieg* and wish to make a comparison between the two along with a few compliments and criticisms.

Although they are obviously different in concept they are actually fairly similar. The graphics are almost identical, with *Blitkrieg* getting the edge for its pretty flags – but is it a 20% edge, as your review suggests? The control method is much better on *Blitzkrieg*, although you quickly get used to *Yankee*'s awkward control method, but having your General's making decisions is realistically infuriating in both games.

The combat is similar in its crudity and silence; men only die in set proportions or not at all it seems. Hidden movement is used well in both games. Remember in the 17th century gunpowder was used, not smokeless cordite, so once the battle began a General could see very little of the battle due to the smoke anyway. The scale of *Blitzkrieg* makes hidden movement acceptable.

I think the big differences between the two lies in realism and playability. In *Blitzkrieg* why is one Belgian unit as strong as a unit in Hitler's crack 4th or 6th divisions? I think the system needs an Attack Modifier (like R T Smith's games) as it is foolish to assume that units are all equally trained and equipped. The same could be applied to *Yankee* but I don't believe the differences were too significant.

As for airpower, where is it? In *Blitzkrieg* the rulebook and history dictates what an important factor it was in the fall of France. It seems in trying to make the game a real challenge, and in that it succeeds, the realism has gone. No longer can Germany sweep aside resistance in its drive for France. The small variation and infuriating nature of *Blitzkrieg* make it low in addictivity whilst you keep coming back for more in *Yankeee*. On the plus side, both games have shrewd and vicious computer opponents. Sorry Philippa, but I think you've overrated *Blitzkrieg*.

James Tye, Barton-On-Sea

***I rate both* Yankee *and* Blitzkrieg *very highly. Perhaps in retrospect – as you suggest – it was unfair to give* Blitzkrieg *such a decided edge over* Yankee. *But I think I would uprate* Yankee *rather than downgrade* Blitzkrieg.**

PI

And finally, a letter from the man responsible for* Annals of Rome, Pegasus Bridge, *and the bugs in both . . .

Dear Philippa,
I am a regular and compulsive reader of your column, not least because you seem, though unknowingly, to be a fan of mine or rather of my work. Let me explain: I programmed *Annals of Rome* on the Spectrum, for which you gave 85% overall, and said was your favourite game of the year. I also re-designed and programmed *Pegasus Bridge* – Spectrum and Amstrad versions – for which you gave 78% overall. For both of these I thank you; it's been a great boost for my ego.

I'd like to point out that I also programmed the arcade sequence in *Tobruk*. I hesitated before mentioning this as I know how you loathe arcade sequences. However, so keen on my work are you that twice you have managed to sneak a piccy of it in under the mis-heading of CCS's *Vulcan* – both in the review in April *and* the yearly round up, so I know you must really appreciate this skilled work of art!

I take special pride in a review from CRASH as it is, compared to the other computer press, of higher standards and quality. I have sung of its praises since it first came out, and it was a great help to me with the article the 'Doc Martin' Kidd wrote on me setting up in business.

Since the article I have stopped selling my own games and have moved on to freelance programming, mainly with PSS, since they publish strategy games, which I personally enjoy playing and programming the most.

Sorry about the history lesson, and other self indulgences. I will get to the point (at last she cried, holding back a yawn). I was most intrigued to read in your column that you run a PBM. What's its name? What's it about? And could I possibly join? For over a year now I have been bitten by the PBM bug and find it a great way to play the involved complex strategy games that I like. When I was interviewed I said I was interested in starting a PBM and have in fact just finished a PBM version of the best selling *Dark Blades* by Standard Games (see the last issue of CRASH for brief details). We might be planning a computer version to tie in with the game, which should be interesting if we can manage to cram all the megabytes of data from hard disk down to a Spectrum!

Please get in touch with details of your PBM, and keep up with the excellent reviews.

Stewart Green, T/A Data Design Systems

Everybody who's interested in computer gaming should have a go at PBMs. This statement is of course entirely disinterested . . . As well as my own humourous RPG* Revenge of the Many-Legged Man-Eating Mutant Tiger Hounds from Outer Space, *our company runs* Macedon *– a complex and historically-accurate simulation of the carving-up of Europe after the fall of Alexander the Great. Information about either game on receipt of an SAE to Alchemist's Guild*, PO Box 114, Kidlington, Oxford, OX5 1DS. *Thank you.

PI

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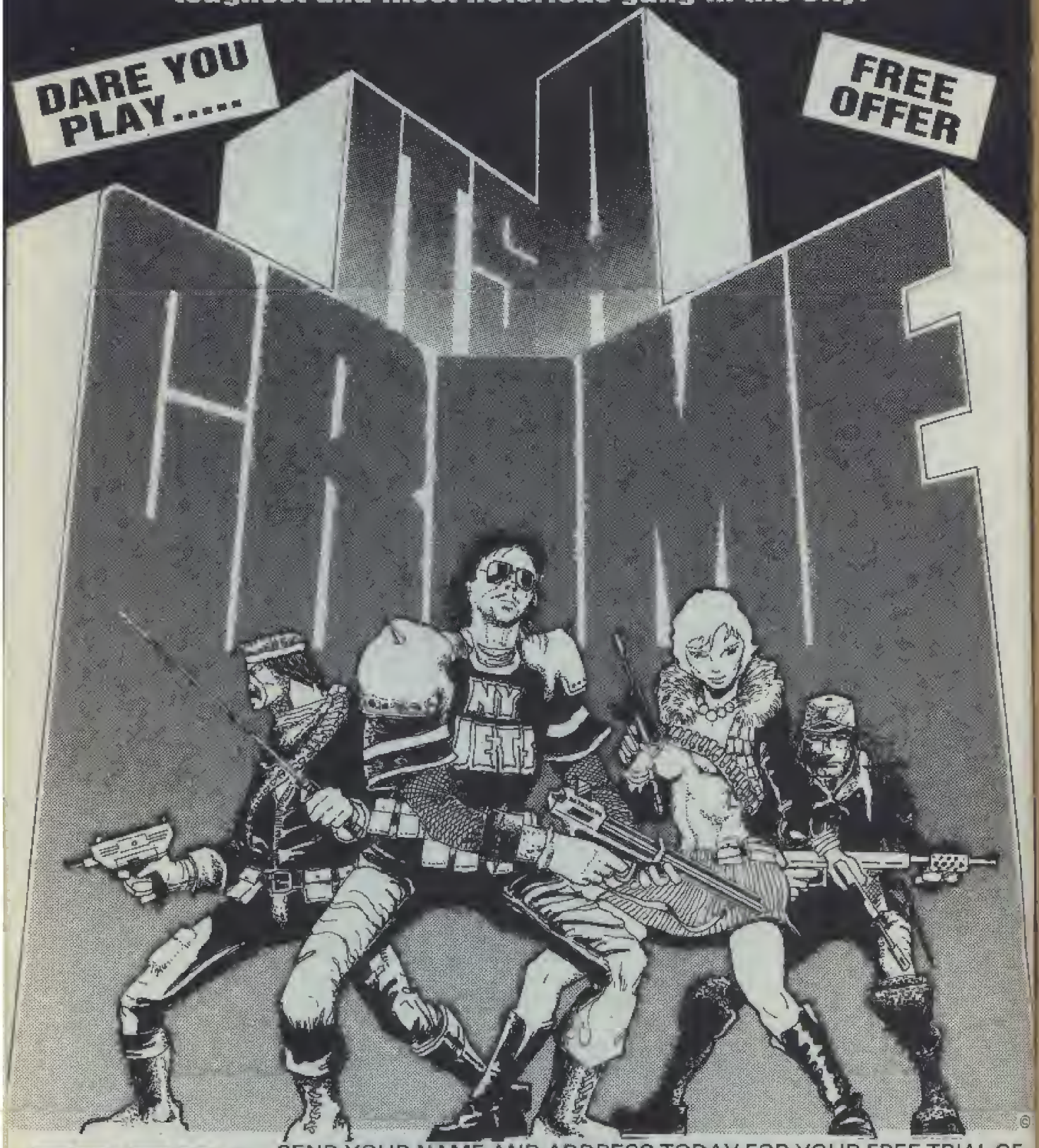

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1988 PBM MAILBOX

FROM LITTLE ACORNS . . .

Not having anything better to do (such as sleeping, eating or drinking) BRENDON KAVANAGH decided to wander up to Cleveleys and pay Kevin Cropper's KJC team a visit . . .

KJC Games was officially launched in September 1981 as a sideline developed by Kevin Cropper to the family business. In those busy days young Kevin had 40 players. Wow, you may say, but from little acorns large oak trees grow – as Kevin has proved. KJC has grown steadily with time. Now, in 1988, he has ten full-time staff (four male and six female) and boasts that 12,000 active accounts have operated over the last year.

Obviously, obtaining *It's A Crime!* from the Americans was the company's saving grace. KJC Games put that opportunity to use with great prowess. Over the last few years they have become the UK market leaders and are not far behind internationally. 'We process more turns than anyone else in the world' bragged Kevin, sitting in his second floor office overlooking the Cleveleys skyline. And why should he not be proud of his company? Everything is well organised, professional and almost tidy! KJC presently moderate *Earthwood* (and it's popular variant, *Sea Kings*), *Capitol*, *Crasimoff's World* and *It's A Crime!*. Plans for the future are exciting – very exciting. Let us examine them . . .

KJC ORGAN

Perhaps KJC's biggest gamble of the year will be their launch of a gaming magazine called *First Class Games*. Edited by Nigel Mitchell and written by a variety of quality writers, *First Class Games* will start life as an in-house magazine. Previews and strategy-related articles on KJC's games are to be a common feature. Nigel intends the articles to be honest (it seems that they do not wish to run unmarketable games). Failing that, I suspect that they will be almost *White Dwarf* in style.

So what else will this magazine include? KJC do not really want it to gain the reputation that *White Dwarf* has for being a method of selling house goods (although I doubt that they will be a serious competitor to *Flagship* even if they do manage to print at regular intervals). They therefore intend to include articles on 'unbiased' topics. A few pages on boardgaming and role-playing, a regular live role-playing page, games fair and pubmeet sections (including reports and a *Whats On?* style diary), a cartoon(!) and the ubiquitous letters page. At first, this will be bagged into about 40 pages on glossy paper with a two-colour cover.

Fairly priced, when you consider what you're getting, at £1.50 per copy, *First Class Games* will either become the biggest newsletter ever or a very good PBM/RPG magazine. Mail order fantasy role-playing games will be available through the magazine and if this takes off, then you may well soon see *First Class Games* on the newsagents shelf . . . Meanwhile, of course, you can purchase it direct from KJC games.

KJC have a game planned for launch every other month this year, conveniently fitting in with the publishing date for the magazine, so just what's in store?

1988 GAMES LAUNCHES

KJC Games seem to have decided that 1988 is the year to expand their supply of offerings. Numerous people have been introduced to the hobby since the launch of *It's A Crime!*, a popular game albeit simple in comparison with other games on the market. In a possible attempt to wean new players into the world of real PBMing while keeping them under the KJC roof as much as possible they have a hectic line-up of new launches for the year.

Dawn Of The Ancients is a deadline game which was launched recently. The game is for 12 players and is computer moderated with an optimum ten day turn around. The idea is simple: take 12 ancient empires and nations from various eras (Egyptians, Romans, Trojans, Huns and so on) and throw them into the same age. Each player rules one of these positions with the aim of gaining the greatest empire of all time.

This is done by the usual approach to gaming: economics, strategy, combat and 'people using'. Expand your empire by colonisation, keep its system running smoothly and repel enemies with armies. Simple? – perhaps. A little bit of mystery is added by the 13th nation. This nation is ancient – more ancient than your own and even more ancient than the next player's. Atlantis – need I say more?

Dawn Of The Ancients, run under European license from Game Systems Inc of Miami (USA), costs £1.50 for each turn. The game is for a limited number of players only; if you want to play you don't have much time, so get in touch with them now!

State Of War. Another GSI game, this. Not only that, it's also another limited numbers game. Launched this month and long-awaited in the UK, there are only 500 places up for grabs.

State Of War is set in America in the year 2000AD. The Federal Government and 20 states have had a major falling out, to put it bluntly. Each state governor wants the presidency; the only way to do that outside of democracy (oh yes, that's been declared null and void) is through civil war – again!

The aim of the game is to gain more victory points than any other player. The game continues for ten turns after the fall of the Federal Government. This is achieved by a number of methods, some economic, some military and one sociological. Another main victory condition is diplomacy (a single player could succeed, but I have my doubts!).

The USA is, for mapping reasons, split into 4,736 hexes. Each hex is a geographical area and has restrictions as to what can be done within it. Players govern states which are comprised of a number of areas. The game involves the strategic use of bribes, military units (armies, tanks, nukes etc), spies, factories and money – all at once! As well as controlling your military forces, you must operate within your state budget – bankruptcy is a killer.

There is a lot to *State Of War*, I should think that it would make a good game for the more demanding player. Reports state that after a few turns it becomes fast and furious, although further than that I cannot comment. *Flagship* liked it anyway.

KJC have high hopes for *State Of War* – it has done well in the US (not surprisingly) and I'm sure that many a Brit would quite like to have a go at playing havoc on the other side of the pond! Price? Not sure yet, but it may not be cheap . . .

AND THERE'S MORE!

Not wanting to do anything by halves, KJC intend to follow up these games with even more launches: a UK version of ***Empyreum Challenge*** set for July, a vastly revamped game of ***Casus Belli*** for August, the improved version of ***Trolls Bottom***, which is out now (special offer next month), and a NEW fantasy game for the end of the year. Look out for details of these games next month, as well as an interesting insight into how KJC process all those *It's A Crime!* turns, plus more chronicles of the Knights of *Avalon*. Something for everybody there . . .

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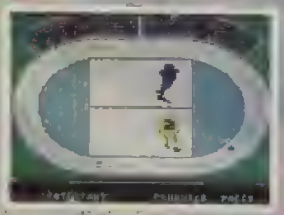

All screen shots from the Commodore 64 version.

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TECH NICHE

INTERFACE TO INTERFACE

This month, the Motel guest list is swelled by the addition of Messrs White, Roberts and Kelly, each of whom gets the very individual attention of JON BATES . . .

OH gosh! The horror of it all. With only a few days to spare before the guests from CRASH arrive to see how our reviewing has gone, mother ruined my XRI interface. I put her in the fruit store out of the way while I frantically waited for the postman with a replacement. Fortunately it arrived in time so that when they sign the guest book they won't suspect a thing. Anyway, lots to do so it's back to the word processor for me.

Some time ago (issue 42) I looked at an FB01 voicing program that works with the XRI interface. Well the programmer, **Martin White**, has been busy again and has sent review copies of his efforts direct to the motel for down-to-earth appraisal.

First up is the DX100/21/27 editor program. Now I was a mite miffed that it didn't give me any graphic editing – just a total list of the peripherals on-screen. Now this is fine and is, indeed, all you need if you have a pretty good knowledge of the workings of a DX synth but it's a little daunting if you're not too sure of which numbers to increase or decrease to change the sound. It has one or two other annoying habits, like every time you seek the help page it whizzes the cursor back to the top left hand corner. This is annoying at first but, like Pavlov's dog experiment, you soon learn the commands necessary to avoid this.

The cursor is steered around with the arrow keys, and sound data is increased or decreased using ENTER or SPACE. Comparisons are both odious and odorous (smart ass!), but I do feel that the DX 100 programmer from Quasar software was easier to manipulate with it's graphic display, making it a bit more interesting and easier to get on with. It also compared favourably at the price (for a full report see issue 53 – last months' in fact).

However, this program is a bit more specific when it comes to the library features, since it can hold up to four banks of sounds at any one time, throw them around and re-order them with consummate ease. This is, of course, a boon for any digital synth or tone module. The purpose of this may not be apparent but let me explain: you might think that having your favourite sounds on the top layer of a voice stack was just a mere luxury, but this is not so. The DX 100 and co. can only respond via MIDI to the voices that are in the uppermost bank. All the others can be called up from the lower layers of the ROM and RAM memory. But it is a tiresome task to put them in the correct order. If you wish to do voice changing via MIDI, say from another keyboard or sequencer, you're a bit lumbered.

If you set 'piano' in memory 1 on synth A and correspond this on with 'piano' also in memory 1 on synth B, every time you press voice 1 on A you will also select, via MIDI, voice 1 on synth B, provided of course they are working on the same channel and 'control info' is set to 'on'. However, when you select memory 2 on synth A, then whatever sound is in memory 2 on synth B will also sound. If you got a bit lost with all that lot, in other words, the voice changes are parallel between both instruments.

To have some sort of accord between the instrument it follows that the numeric order of the voices must match sonically. OK? They must blend in, comprendi? In short: YOU CAN'T HAVE VOICES THAT DON'T MIX ALLOTTED WITH THE SAME PROGRAM NUMBER – IT WILL SOUND AWFUL.

Sorry; I got a bit excited. Back to the review . . .

The librarian lets you see all four banks of sound at once and swop them around to form whatever matching sound files you wish, most useful. To sum up, the DX 100 editor for the XRI interface is not a bad program. It's very efficient and well thought out, but, always being one who wants everything, I would liked to have had a more visual approach.

Along with the librarian you get two banks of new voices to play around with. Send your pennies, all £29.95 of them, to XRI or Martin White at the address listed at the end. Martin also informs me that if you deal direct with him he will give you a discount.

And so onwards to the Casio end of the world. **Steven Kelly** has actually written a CZ voice editor. The embryonic package I reviewed works with the interface. One although you'll need to look at the accompanying diagram to see how to wire it up. He was moved to write it after buying a similar commercial program (he doesn't state which one!) and finding it reasonably unsatisfactory – slow to react and with only marginal display facilities. He claims that his program will store 160 voices, display all envelope and parameters at once, send voices to the synth in under 1/3 of a second – almost in 'realtime' – a sort facility for the voices that gathers all voices with a certain character string, plus clear, easy-to-read characters and graphs. My, my. Someone has been busy! Right. This calls for action. I'll just nip over to the house and get my Casio and assorted gubbins and report back on the validity of his claims.

(Several hours later . . .) Well, I'm pretty impressed. The editing is a pretty painless procedure since the package has a very clear screen laid out in the same format followed by the Casio Sound data books. Copying voices from printed data should therefore represent no problem. It has easy to follow on-screen instructions, although most of the commands require a word to be typed in, whereas a single letter would have been quicker when in mid-edit. It would also have helped if the editing commands were on-screen rather than on paper as it were.

The graphic display of the sound envelopes, although simple, is quite effective and on a flip-screen. Steven has also included 82 voices for your delight which can't be bad.

My pre-launch version did have a habit of conking out for no good reason; I gave it a few commands that it didn't understand and it didn't seem to want to restart readily. If these are sorted out and a couple of 'idiot proof' routines put in then the program represents excellent value for money at the astounding price of only £3. (Thinks: that's either two Big Macs, a ticket to the pictures, 10 packets of peanuts or two gin and tonics). The address is listed at the end. It certainly is the cheapest product I've yet had to review and, as such, represents excellent value for money. Steven is also hoping to convert it for use with other interfaces.

When you open your post and find that it has loads of closely typed A4 paper you are taken aback. It makes a change from the usual gratuitous rubbish from the double glazing hawkers. Leafing through, I find that **Mark Roberts** from Dover has been at it again. That is to say he has been uncovering the secrets of yet another tone expander, and this time the specimen under the microscope is the MT32 from Roland. I haven't the room to reprint it all here but owners or potential owners of this smart cookie read on.

The MT32 uses the same method of voice production as Roland's D50 synth, which is now assuming legendary status and is about to join the ranks of 'great synths of our time' along with the DX7, Mini-Moog, and Prophet 5. It has 128 voices on board, the possibility for setting up 64 of your own, works on up to eight MIDI channels with separate and simultaneous voices for each channel, and is 32 note polyphonic ▶

in total when multi-timbral. It has sampled percussion on board, obviating the necessity for a drum machine. However, it is as inaccessible as the North Pole if it doesn't have a friendly program to talk to. Even if you set up your own voices the memory sulks when you turn it off and refuses to remember anything (good joke, huh?). Mark's very detailed information will tell you how to:

Play all eight parts on one channel.

Change the reverb effect/on and off for each part.

Change the master tuning/volume/rhythm output level/stereo panning.

Transpose/fine tune.

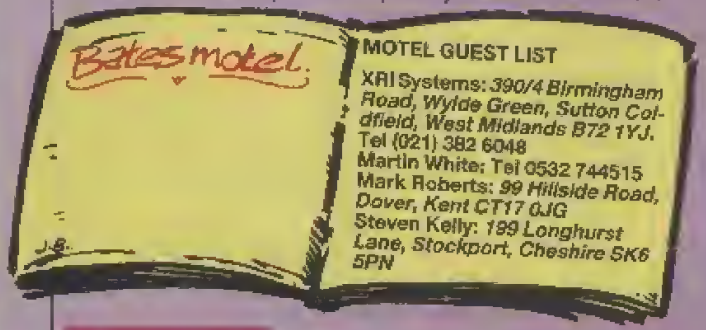
Alter the pitch bend range.

Alter individual stereo panning and output level for each part.

It's all in 'Z' codes output from a 128. He doesn't state a price for the 10 pages of info but if you work on a commercial photocopy costing 10p a sheet plus postage you will have a rough idea: about £1.25 should do it. Contact him direct at the listed address.

As usual, don't send cash through the post. Unless otherwise specified, make cheques/POs payable directly to the person or firm in question. If you are silly enough to send it to CRASH Towers or the Bates Motel then you can expect an even longer wait.

Next month sees more software reviews, a few of your problems answered, plus the usual bits and pieces. Thanks for the mail and tapes; sorry I can't reply personally to them but the most interesting always find their way into the column. Look forward to hearing from you at the usual address.



TECH TIPS

SIMON N GOODWIN reports on three +3 Pascal Compilers the 007 Disassembler, returns to the topics of the Tech Tape, ZipZap, and Multiface RAM upgrades, and exposes yet more ROM bugs!

THREE PASCAL COMPILERS

+3 owners have a wide choice of alternative programming languages, which I intend to survey in future columns. This month I compare three impressive implementations of the Pascal language.

Pascal was invented in 1970 by Niklaus Wirth, an outspoken Swiss professor. It is designed to be efficient and expressive, while forcing the programmer to think out a clear design before coding starts. This makes it popular with academics and methodical people, and hated by hackers who like to make things up as they go along. You can learn a lot by writing large programs in Pascal; it's more of a science and less of an art than, say, BASIC or C.

I looked at two compilers from Spectrum stalwarts HiSoft – *Pascal +3*, which runs on a standard +3, and *Pascal 80*, which runs under +3 CP/M. The third package is *ProPascal*, from Prospero Software, which runs on all Amstrad CP/M systems, including the latest Spectrum.

These are powerful compilers, rather than the cut-down subsets that often appear on micros. They support PEEK, POKE, IN and OUT, CASE . . . ELSE/OTHERWISE, 16-bit integers, 32-bit single precision floating-point, CHARs, BOOLEANs, VAR and value parameters, arrays, records (including variants), files (including random access), sets, hex constants, pointers, enumerated and subrange types – plus all the standard Pascal commands and functions, of course.

The table summarises the differences between the compilers. Both HiSoft packages have an integrated editor so you can swap back and forth quickly between compiling and editing. They also work much faster than *ProPascal*, mainly because the HiSoft compiler is a one-pass 20K program, whereas Prospero's compiler scans three times through the source, using a total of 102K of code in three programs, plus another 16K for the linker!

You really need a second disk drive to run *ProPascal*, although I did manage to run tests, rather laboriously, using an unexpanded +3. If you're planning a very big program, *ProPascal* might turn out to be almost as fast as the HiSoft compilers, because you can compile files in sections and need only recompile the parts you've changed, before linking old and new parts with the linker.

Compilation controls are much the same for all three compilers: you can turn break, overflow and subscript checks on or off, control listings, and include other source files. Prospero have a couple of extra options – one rejects everything except strict standard Pascal, while the other tries to produce condensed code, trading speed for size and typically reducing file sizes by about 10%.

The manuals were clear and comprehensive; the *ProPascal* one was easiest to read, while the HiSoft manuals were the best looking. The HiSoft compilers came with laser-printed loose-leaf A5 manuals in ring binders. The ProPascal manual was spiral bound and daisywheel printed on expensive paper – it included an index and tutorial, both notably absent from the HiSoft manuals. HiSoft make up for this, to some extent, with five and seven page contents lists, and suggest that you buy a separate tutorial if you're new to Pascal.

All the +3 compilers can handle programs larger than the maximum size for one file. The first file you compile with HiSoft's compilers can 'get' text from other files. ProPascal goes even further, by allowing that file to call up text in another, and the other to call upon a fourth file, if necessary.

ProPascal includes commands to rename, append, erase and check filenames inside your program. You can't do this in *Pascal +3*, but *Pascal 80* includes a general purpose routine that lets you call CP/M functions from inside a Pascal program. All three let you 'chain' execution from one compiled program to another.

There was little to choose between the speed and size of generated code – all the compilers did a good job of writing Z80 code. They were rather vague about errors, as Pascal compilers tend to be – sometimes they produced rather a lot of spurious error messages after one silly error in a file. HiSoft give you the option to swap back to the editor and fix the problem as soon as one error is found.

TRADE-OFFS

These are all good Pascal compilers, with inevitable trade-offs. *Pascal +3* is best suited to the +3, but programs compiled with it won't run on other machines and the editor is rather clumsy, reminiscent of an old-fashioned BASIC editor.

The same editor is used in the £25 cassette version of HiSoft Pascal, for earlier Spectrums. The tape compiler is similar to Pascal +3 but won't compile such large programs and lacks refinements like file handling and variant records.

If you've got CP/M Plus you can use the much better ED80 editor supplied with *Pascal 80* and other HiSoft CP/M languages, at £29.95 separately. ED80 is easy to configure and use, and does everything a good program editor should. It handles large files very quickly, although scrolling is rather slow and un-formatted disks can make it crash. HiSoft also include three useful new CP/M utility commands that improve on PIP, ERASE and DIR.

Pascal 80 programs are portable to other machines, notably MSX, Tatung Einstein, and Amstrad CPC and PCW systems, but you lose access to Spectrum graphics and sound.

ProPascal is the most expensive compiler, at £57.50, but the most comprehensive. Formerly Amstrad ProPascal sold for £300, and it was used to write the entire ProPascal and ProFortran system. *ProPascal* implements the full ISO standard, without quirks, and has lots of well thought-out extensions – nine digit 32-bit integers, 16 digit 'double precision' maths, strings with dynamic lengths up to 255 characters, and error trapping.

The snags are the lack of an editor and the need for a second disk drive. The first problem is minor; any ASCII editor will do. The second may be more crucial. I'd be very interested to hear from anyone who's connected a standard 3·5 or 5·25 inch drive to the port on the back of the +3.

MULTIFACE RAM

Simon Owen of Prestatyn has written in with a tip for Multiface owners who have been unable to make their interface work with RAM in place of the normal ROM. In the December issue I printed Paul Cook's tip which explained how you could customise ZX BASIC by copying it into Multiface RAM, after adding an extra chip to the Multiface. Since then several readers have reported problems – but Simon Owen has the answers.

The newer Multifaces have an internal switching facility which is intended to make them invisible to commercial software. Unfortunately this also makes it impossible to switch on the Multiface memory with a command like IN 159, which Paul used. The Multiface won't listen until someone presses the button on top.

The button also diverts the processor from running the current program, into the Multiface ROM. Unfortunately Paul's other bright idea was to unplug that ROM and replace it with RAM. The RAM contains random values – because nothing has had a chance to write it! The processor crashes when it tries to run the ROM routine and finds RAM instead. It seems we're stuck.

Simon's technique seems rather odd, but logical. He has tested it on the old Spectrum 128 and the +2. It should work with the older Spectrum + as well, but I haven't got one to try it on – my six-year old issue 1 48K machine (complete with 'dead cockroach' modification) has no reset button, and that turns out to be vital. Connect your Multiface in the usual way, then turn on the power. Reset the computer in the normal way. Then HOLD IN the Reset button on the side of the computer, and wait half a second. Still holding the Reset button down, press the 'magic button' on the Multiface, and hold both down for another half second. Then release the computer Reset button, wait half a second, and finally release the Multiface button. This sounds more difficult than it is – the timings aren't critical, just the sequence.

You end up with the machine reset in 48K mode, with 128K memory (if fitted) and the Multiface still available. The next step is to copy the ROM into the 16K of RAM you've fitted in the Multiface, as explained in December.

But Simon has also discovered three POKEs that fix bugs in the copy of the ROM. It turns out that the standard Spectrum ROM contain two routines which write to the ROM area – and these corrupt BASIC if it is held in RAM.

Writing to ROM has no effect; it appears to be a bug that one of the routines overwrites ROM, harmlessly, but the other deliberately uses ROM as a convenient place to put a value it doesn't need.

At address 3372 in ZX BASIC the editor is told to scroll 24 lines of the display. In fact there's no point scrolling the top line up, because it disappears – but in fact the program still copies that line into the previous area of memory – the ROM character set. You must type POKE 3372, 23 immediately after copying the ROM into Multiface RAM, or some characters will not display properly later.

Later in the ROM, a routine for skipping over values in a table uses STK-CONST to discard each value. STK-CONST normally copies the value to the address in register DE, but the codes at 13306 and 13309 tell it to dump it at the start of the ROM, avoiding the need for a separate LOSE-CONST routine.

Simon Owen solved that problem with POKE 13308, 170 and POKE 13309, 4 which together make the routine dump the values in a safe place – on top of an outdated routine that was accidentally left in place when Spectrum BASIC was developed from the 8K-81 BASIC. Simon wins this month's £40 software prize.

ROM POKES

Once you've fixed the ROM bugs, you can speed up cassette loading by subtracting 8 or 14 from the value at address 1487. To SAVE files at matching speeds you must subtract either 12 or 21 from the values in three places – 1272, 1305, 1311, 1326. In each case I've given two adjustment factors – one gives a 20 per cent speed-up, the other gives 50 per cent – 2,250 baud.

I've worked out that POKE 109, 40 should bring the 'magic button' under the control of your own software. It brings the 'unused' system variable NMIADD at 23728, 23728 and 23729 to life, correcting a ROM bug so you can intercept Non Maskable Interrupt signals (magic buttons, in TECH-speak!). You POKE the address of your own machine code 'magic' routine into NMIADD.

POKE 2611, 24 fixes the 'cursor left' movement bug, first mentioned on page 190 of 'Understanding Your Spectrum' by Ian Logan. Odd things happen if you try to move left – with CHR$ 8 – from AT 0,0!

POKE 9597, 201 eradicates the obscure SCREEN$ bug. Without this POKE calls to SCREEN$ produce two temporary results when they should only produce one. This leads to problems if you use SCREEN$ in expressions, like this:

```
PRINT AT 0,0;"*";"!"
+SCREEN$ (0,0)
```

You'd expect this to print the asterisk, then the exclamation mark and another asterisk, read from screen memory by the function. In fact, you get three asterisks, because the second result from SCREEN$ gets in the way of the "!". Weird, eh?

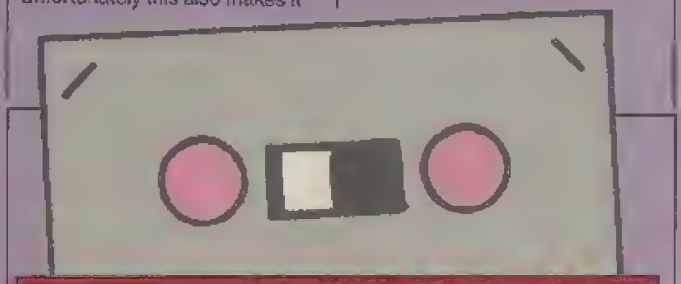
An error of one part in four billion in mathematical calculations can be avoided with POKE 12600, 218. This fix to the division routine is well worth it if you like to divide by two in your programs. Believe it or not, a Spectrum thinks 1/2-0·5 is 0.0000000023283064 until you fix this bug!

Machine code enthusiasts can work out lots of other interesting ROM POKEs by looking through a copy of Ian Logan and Frank O'Hara's 'Complete Spectrum ROM Disassembly' – a classic when it came out in 1983, in the halcyon days when no-one worried about ROM bugs because everyone had the same ROM and programmed around the few well-known flaws as a matter of course. Life was simple, before disks, but we enjoyed ourselves . . .

YET MORE AMSTRAD BUGS

The +3 is a year old now but fresh bugs are still creeping out of the woodwork. Amstrad are apparently about to produce a new ROM, with corrections for the errors in the COPY routine mentioned in previous issues, and hopefully fixes for other bugs besides.

Some readers have noticed that the +3 seems to gets confused when you enter the SPECTRUM



TECH TAPE TWEAKS

About 800 Tech Tapes have been sold in the last couple of months, so I'm rather disappointed not to have been sent any hacks or enhancements yet. Anyhow, here are a few things I've discovered . . .

The 'error trapper' on the tape detects ZX BASIC errors including Break, but you need a BASIC routine to handle the error. The Zip 2 compiler has its own Break scan, which checks 50 times a second to see if SHIFT ENTER is pressed when compiling or running compiled code. These keys stop the program at once and return you to command level – very convenient when you're developing programs, but annoying if you want to produce a crash-proof final version.

Another problem is that the scan used the Spectrum Mode 2 interrupt, so you can't use Zip code at the same time as any utility – such as a sprite package – which uses that interrupt.

Both restrictions can be removed with a couple of POKEs. The Break scan is turned on in two places – at the start of the compiler itself, and in a routine normally copied to the start of each compiled program. If you type POKE 54301, 75, programs compiled from that point onwards will not turn on the Break scan. POKE 54301, 71 to restore normality.

If you use this POKE you can still Break into compiled code after compilation, because the compiler will turn on the Break scan as soon as you start to compile any program. The program is not Break-proof until you reset the computer and load the compiled code on its own, without calling the compiler.

To turn off Break checks when compiling, type POKE 33336, 75 immediately after loading Zip 2, and before you compile your first program. This means you won't be able to interrupt compilation once it's started, but that's not a big restriction as Zip 2 works very quickly. Break checking will still be turned on when you run any compiled program, unless you also used POKE 54301, 75 before compiling it.

A few people have run into problems using the Tech Tape code in high memory areas. A bug in the +2 and +3 means that you should not load code into the top 220 bytes of memory, or the NEW or LOAD commands will corrupt it.

The bug is discussed in more detail later in this month's column, but if you've run into problems loading Tech Tape code to the default address at the top of memory there's a simple cure that requires no technical knowledge – just type CLEAR 65315 before loading and running the Tech Tape loaders, so that they avoid using the very top part of memory.

command to switch from +3 BASIC to 48K BASIC. Rather than the expected 'OK' message, or a copyright notice, you end up with the obscure text 'OUT 7,1' printed at the bottom of the screen. This doesn't stop 48K BASIC working as normal, but it's an odd effect and shows how little AMSTRAD tested parts of the +3 ROM.

My spies report that the bug was added just before the ROM was sent off for duplication. The OK message should be generated by this sequence of code at the end of one of the ROMs:

```
RST 8
DEFB 255
```

but Amstrad assumed that the 255 was an 'empty' ROM value, as is usually the case, rather than a report code for the RST 8 error routine. Amstrad arrange that the total of all the values in each ROM is exactly divisible by 256; this makes it easy to detect duplication errors.

They can make sure that this works by adjusting the value of one byte, and there's usually no shortage of unused bytes to tweak. The odd message appears because they changed the report number, thinking it was an unused byte – which shows fairly basic ignorance of the way ZX BASIC works!

One new quirk that actually seems quite useful concerns the way the 'calculator' has been bolted on to 128 BASIC. The calculator functions work even when you're programming in +3 BASIC, so you can type a sum at any time, without a PRINT statement, and the result will be printed on the next line. Try entering 2+2 as a direct command in BASIC to see this effect.

You can use any of the BASIC functions in such calculations, which means that you can enter calls to machine code without having to put RANDOMIZE before the USR call. For instance, USR 24700 will start a Pascal program loaded into a +3, whereas you'd need:

```
RANDOMIZE USR 24700
or PRINT USR 24700
```

on an earlier Spectrum. A command starting with USR works as if it had PRINT in front of it and a semicolon afterwards.

This is a neat trick which saves typing on the slow +3 keyboard, but you must be careful when using it. According to HiSoft star programmer and Spectrum/QL scribe Andy Pennell, the calculator relies on the value of the processor's IX register being unchanged after the call, and the machine may crash if the code you call alters IX.

The latest problem to come to light is two years old, so it affects the Amstrad + as well as the +3. It's quite common to use CLEAR to specify the top address available to BASIC, and then load machine code above the address – error trappers, printer routines or whatever.

Unfortunately the code at address 471 in the Amstrad editor ROMs sets to zero the two bytes at addresses 65316 and 65317 whenever you type NEW or load a new program, whatever space you have reserved with CLEAR. This means that NEW can corrupt machine code, character sets and other data stored in 'protected' memory.

This bug does NOT crop up on the original black-boxed Sinclair 128K Spectrum, but whatever your computer, you should bear it in mind when writing utilities to be stored in high memory. Unless you avoid those addresses, your code won't survive a NEW command.

HARD FAULTS

There also seem to be some interesting hardware quirks in the +2 and +3. Apparently the +2 Reset hardware can be unreliable if you've got add-ons plugged into the back of the machine. If you press the Reset button briefly it can reset the processor but not the Logic Array that controls memory, so you end up in 48K BASIC rather than faced with the usual +2 menu.

I hear reports that the effective speed of the +3 disk drive varies a lot between individual computers. The data on each 'track' of the disk is stored in nine sections, each 512 bytes long. When a file is saved or loaded the disk software waits for each section in sequence.

The disk turns five times a second, so the maximum possible wait is one fifth of a second. The data should be 'interleaved' on the disk so that each subsequent section has turned into the right place, ready to be read, as soon as the previous one has been processed.

In practice this timing is cut very fine on the +3, so that variations between the speed of individual drives can make a big difference. A slow drive can pick up sections without waiting, whereas a slightly faster drive that is still within specification might just miss the required section and have to wait for the disk to go through a complete turn before the section it wants comes round again.

The Amstrad CPC 6128 suffered from a similar problem if the drive was misaligned, but it used slightly faster code than +3 DOS so the problem was very rare. The Atari ST has a very similar fault, which you can avoid by formatting disks to use a different sequence of sections.

I've only got one +3 to play with, so I'd be interested to know whether or not its speed is typical. I find that the command:

```
SAVE "A:DOS ROM" CODE 0,
16384
```

takes 18 seconds on my machine, whereas re-loading the same file takes just over ten seconds. Please try this yourself – using a blank disk to ensure that the file is stored efficiently – and let Tech Tips know the speed of your drive. I'll summarise the results in a future issue.

ZIPZAP UPDATES

Nigel Mercier of Omega Software (Tel: 0932 228649) has written in with details of updates to ZipZap, reviewed in the May issue. The new version has a 16-bit decimal to hex converter and a command to enter text directly into the buffer used and when searching the disk. Both of these changes were suggested in my review! Nigel adds, 'the other drawback you mentioned was the manual which has since been improved, and is being updated regularly.'

007 DISASSEMBLER

Since the early days of Spectrum computing ZX Guaranteed has churned out newsletters and utilities for Sinclair computer users, from their base in Bury, Lancashire. The boss, G A Bobker, has stubbornly refused to follow the rest of the trade up-market or (more commonly) into receivership, and still runs his business like one of the early hobbyist firms. He used to put his home phone number in advertisements, followed by the warning 'not while Doctor Who is on'!

ZX Guaranteed tapes tend to address markets that other firms would consider too much hassle to support. They have low prices, photocopied paper inserts, and typewritten or dot-matrix manuals, packed with erratic grammar.

Many of the programs are named after *007 Spy*, Bobker's answer to the problem of copying 'protected' cassette files to tape or disk. The latest addition to the range is *007 Disassembler*, a £5.95 tape that translates a program in memory into machine code mnemonics that can be understood by anyone who reads Z80 assembly language.

Disassemblers are two-a-penny – they're usually supplied as part of a larger package, and most machine code programming systems come with one. The main problem with disassemblers is that they tend to get in the way of the program they're examining. Commercial software usually fills almost all of the Spectrum's memory, so you have trouble loading the disassembler at the same time as the code you want it to examine.

A year or so ago I reviewed a neat solution to this problem – *Genie*, a disassembler published by Romantic Robot, makers of the Multiface add-ons. *Genie* loaded into the extra 8K of RAM built into a Multiface, and could be called up at any time – even if a program was running – by pressing the 'magic button' on the Multiface. *Genie* used a small eight line window so that it could restore the screen and re-start the original program when you've finished.

007 Disassembler is aimed at people who want the same convenience but don't own a Multiface. It can't use a magic button, so you have to interrupt the loading of a program – as you would to enter POKEs – before you can use *007 Disassembler* to examine the code.

007 Disassembler avoids memory clashes by loading and running from the 6K Spectrum screen memory. The first eight lines of the screen appear blank, but in fact matched ink and paper attributes conceal the 2K of machine code that is *007 Disassembler*.

The other 16 lines are used for the disassembly, which – as was once fashionable – makes generous use of colour. When you read machine code it's useful to spot calls to subroutines and the 'return' instructions that mark the end of each routine. The disassembler shows calls in light blue and returns in purple; the rest of the code is printed in the Spectrum default of black or white, with a red border.

This may sound garish but I found it clear and quite useful in practice. Characteristically, Bobker's two packed A4 pages of documentation include a list of POKE commands that let you change the colours to suit yourself, as well as POKEs to customise the keyboard auto-repeat delay and the character used to mark hexadecimal values.

Three versions of the program are recorded on the tape. One loads into display memory, as explained, while the other two use a full-size screen and load near the top of the Spectrum's memory map – either at 60000 or 63000. All versions are 2K long and load as CODE files. You call them with a USR instruction – for instance, the version in screen memory can be called with:

```
RANDOMIZE USR 16384
```

There are just six single-key commands. Addresses and other values can be displayed in conventional decimal notation or in hexadecimal – base 16, convenient when comparing values with their binary equivalent. You can swap between these two options by pressing H or D at any time, which causes the border colour to change and the current screen to be re-displayed in the new base. Re-drawing never takes more than a second.

Type S to enter the start address for disassembly, followed by four or five digits, depending on whether you're entering hexadecimal or decimal addresses. The display re-draws a screen at a time, with no overlap. N calls for the next 12 or 20 lines, depending on the version, and C copies the display to the printer.

The printout relies on the 48K ROM routine, which only works with dedicated Sinclair printers like the Alphacom 32 or ZX Printer. A simple but tedious BASIC routine to COPY to other printers is printed in the instructions. You can swap back to BASIC at any time with the E key, and re-start with a USR call.

There were two minor bugs in the version of *007 Disassembler* that I tested. The code did not check the OVER printing option, so the screen got into a mess if you called it while OVER 1 was set. More importantly, the disassembler was confused by the data byte that follows RST 8 instructions in Spectrum programs – it tried to disassemble the data as an instruction, making the next few lines after each RST 8 potentially misleading.

You must know where machine code has been loaded before a disassembler is useful, so ZX Guaranteed include an extra program, *007 Head*, which reads standard Spectrum files (but not hearderless files) and tells you their size and where they load. This BASIC program is very simple, but worth having if you have not already got a utility that does the same job.

007 Disassembler costs £5.95 from **ZX Guaranteed, *29 Chadderton Drive, Unsworth, Bury, Lancs BL9 8NL***. It's simple, but I've found it useful.

DON'T STOP NOW

I was hoping for more space this month but didn't get it, (stop moaning – Ed) so I've still got a large backlog of programs for review – particularly new and converted programs for the +3, most of which I listed in June.

Just squeezed out of this issue was a review of *Z80 Toolkit*, a comprehensive introduction to Spectrum machine code from Lerm Software. The Toolkit includes an assembler, to convert your programs into machine code, a disassembler, to help you analyse other people's code, and a monitor to tell you why your program still doesn't work. It costs just £7.99, and I'll report in much more detail next month.

Of course, Tech Tips still revolves around your suggestions as well as reviews of commercial programs. If you come up with a new tip that can be squeezed into Tech Tips, please write in and tell the world what you've done. There's a prize of £40 of software of your choice for the best original Tip published every month.

I'm keen to hear from you, and I try to answer common questions in this column, but I can't reply to letters individually. Don't fill pages saying how much you deserve special treatment – almost EVERYONE does that, so it's a waste of your time and mine. Tell me what's new, and I'll tell the world you thought of it first! My address is: **Simon N Goodwin, TECH TIPS, CRASH, *1/2 King Street, Ludlow, Shropshire SY8 1AQ***.

TECH TABLE: SPECTRUM +3 PASCAL COMPILERS COMPARED

PRODUCT NAME	Pascal +3	Pascal 80	ProPascal
PUBLISHER	HiSoft (0525 718181)	HiSoft (0525 718181)	Prospero (01 741 8531)
OPERATING SYSTEM	+3 DOS	CP/M	CP/M
PRICE	£34.95	£49.95	£57.50
MANUAL SIZE	92	111	182 (A5 pages)
COMPILATION SPEED (LINES/MIN)	1360	1250	560
MIN COMPILATION TIME (SECONDS)	4	8	40
COMPILER SIZE	22K	20K	102K
MAX OBJECT SIZE (CODE & DATA)	40K	61K	61k
MAX SOURCE FILE SIZE	32K	52K	Depends on your editor
MAX IDENTIFIER LENGTH	8	8	255
MAX SET SIZE	256	256	2039
OTHER GOODIES	Turtle graphics PLOT & DRAW BEEP 51 column display Inline code Integrated editor Disassembler	Full screen editor CP/M utility commands Inline code Disassembler Integrated editor Generalised CP/M call	String operators PROC & FN parameters Error traps 32-bit & 16 digit maths ISO standard Extra file commands Linker, Xref & librarian utilities
MAIN SNAGS	Crude editor		No editor supplied Need drive B

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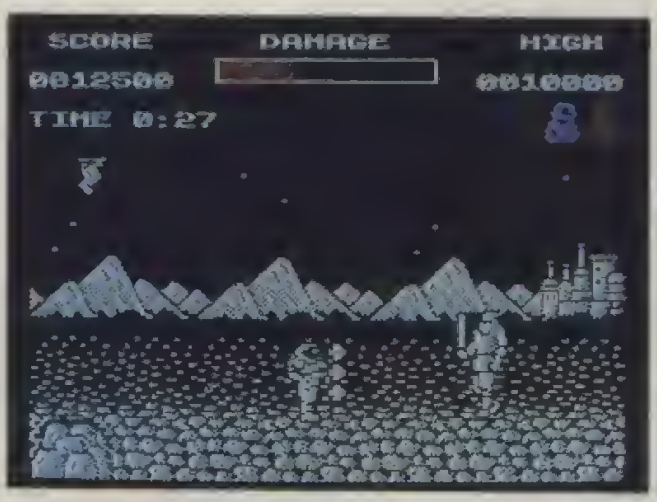
SOLDIER OF LIGHT

Producer: **ACE**
Retail price: **£7.99**
Authors: **Softek from a Taito coin-op**

Xain, coin-op hero and intergalactic mercenary, has been summoned to tackle the greatest challenge of his career. Three planets in the sector have been invaded by Federation infiltrators, and the spaceways separating them are clogged with alien craft. Equipped only with his exoskeleton armour and jet boots, the intrepid Xain teleports straight to the heart of the disturbance.

The mission is loaded in two parts and takes place against a horizontally scrolling background of strange and hostile planets. Rocky outcrops form a system of platforms against the sky and



► The end of the first level is nigh

PAUL

" Most arcade conversions either have lots of colour and lack speed (Karnov) or have great speed but lack any use of the Spectrum palette. But Soldier Of Light is beyond me: it not only lacks colour but is also very unresponsive. Coming from the author of Xecutor (84%, Issue 45) I find this hard to believe. Fans of the arcade machine should recognise the computer version but won't necessarily be at home with its jerky scrolling and dodgy collision detection. Soldier Of Light is, however, very addictive due to exactly the right difficulty setting – you'll probably complete it, but it'll take many, many hours play. A decent, albeit niggling, shoot 'em up. "

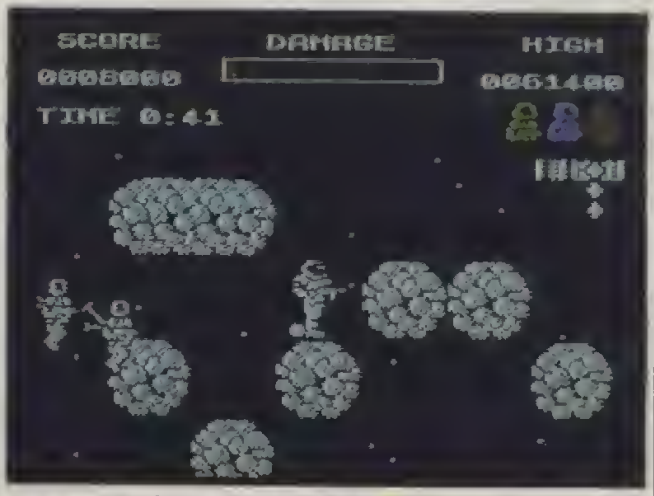
70%

► Just like the arcade machine?

NICK

" Soldier Of Light is an excellent conversion from the arcade machine. Right from the start you get slick presentation and excellent graphics. The only problem is the game lives up to it's name: it's very light! The programmers must have used up all their colour allowance on the title screen and not left any for the game itself. The monochrome doesn't spoil the playability, though; if anything it makes it better by taking away the threat of clash. There are some really tough baddies in the game, and I still can't work out how to get past some of them which makes it a bit frustrating. However, Soldier Of Light is a great conversion. Bring a first class Taito arcade game into your bedroom today! "

84%



► (Almost) every cloud has a silver lining

KATI

" Xain's mission takes place against a detailed and occasionally atmospheric background. Huge, man-eating plants and even a distant, rather grisly relative of the Loch Ness monster appear. The gameplay itself is compelling, although it does require a little perseverance. Aliens advance mercilessly from all sides and working out exactly where it's safe to tread turns out to be a matter of trial and error. One minor quibble regards the control method: to get out of the crouching position you need to jump up. With jet boots this tends to take far longer than the surrounding aliens allow and generally leads to an untimely end. However, this is a relatively small hitch in a competent, if unspectacular, conversion which should keep you playing for quite some time. "

70%

man-eating flowers wait patiently for Xain to put a jet-booted foot wrong.

Aliens attack from all sides shooting pellets and advancing with armoured machines. Contact with enemies and their bullets diminish strength on contact, as indicated by an energy bar.

At first, Xain is equipped with a single laser but other weapons, in the form of armour piercing lances, double shot fire balls and triple blasters, can be collected from the surface of every planet.

Once each planet has been cleared within the given time limit, the mission transfers to deep space. Taking control of a spacecraft, Xain attempts to ward off fleets of alien fighters against a horizontally scrolling starfield. A direct enemy hit is immediately fatal.

Given the chance, Federation forces re-invade a cleared planet in the time it takes to regain all three, forcing Xain to go back. It looks like he'll be busy for some time . . .

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: monochrome throughout, with a wide range of large and small monsters – well drawn
Sound: squirty firing effects
Options: definable keys
General rating: an enjoyable arcade shoot 'em up, with a few drawbacks

Presentation	79%
Graphics	75%
Playability	70%
Addictive qualities	71%
OVERALL	**72%**

One of the seven wonders of the world and one of the 18 sectors of *Dark Side*

The final confrontation

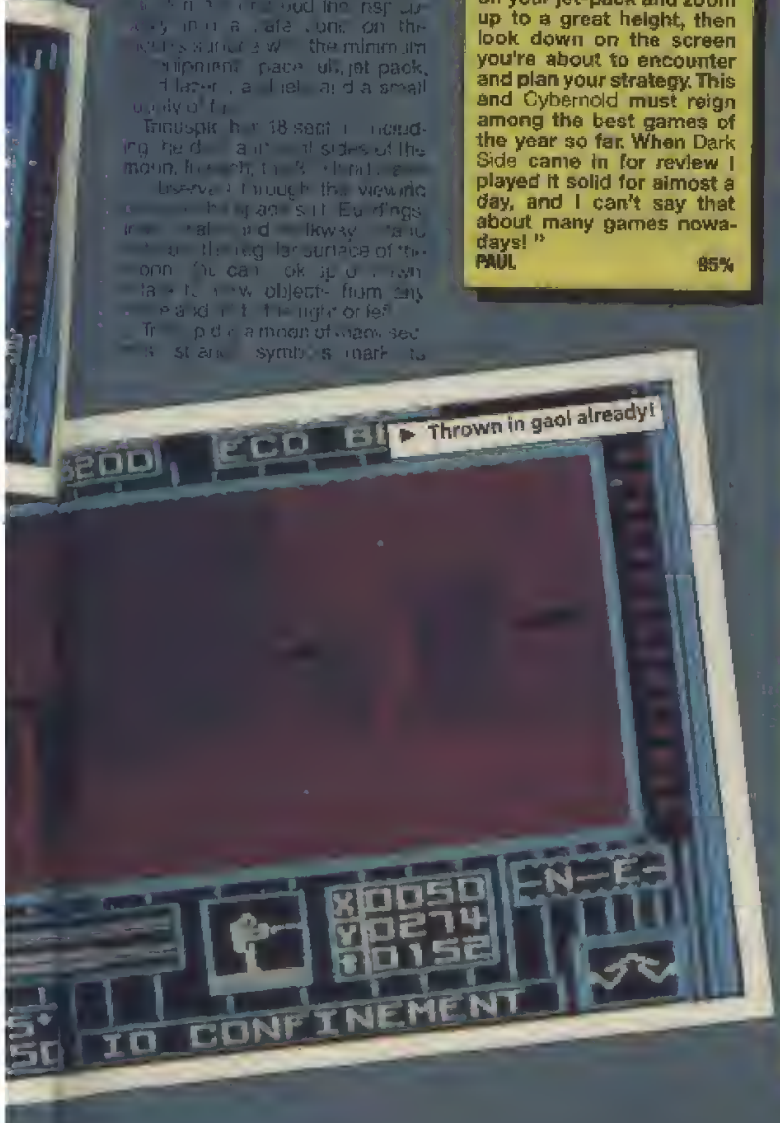
The long awaited *Driller* sequel

Dark Side : a land of telepods and mysterious symbols

Producer: **Incentive**
Retail price: **£9.95 cassette, £14.95 disk**
Authors: **Major Developments**

D·A·R·K S·I·D·E

A CRASH Smash



" The impossible has been done! Incentive have taken the best game of 1987, improved on it, and made it one of the best games of 1988! There was no doubting the excellence of Freescape – the graphics generation technique used in Driller – but some criticised the lack of game content. This criticism could in no way be levelled at Dark Side; it's not just a fast action game (albeit only 5% faster than its predecessor) requiring accuracy and coordination but also a very strong strategy game – cartographers will love it! My favourite feature of Dark Side is the way you can enter a screen, turn on your jet-pack and zoom up to a great height, then look down on the screen you're about to encounter and plan your strategy. This and Cybernoid must reign among the best games of the year so far. When Dark Side came in for review I played it solid for almost a day, and I can't say that about many games nowadays! "

PAUL **85%**

" Following the considerable success of Driller, the Freescape technique has once again been used to incredible effect in Dark Side. (hopefully, though Incentive's next enterprise will use Freescape in a different fashion; it's such a brilliant system, I would hate for each successive game to become 'just another Driller variant'). Dark Side is an extremely captivating game, and after playing for only a short while it's possible to become totally absorbed in the proceedings. For the player, the world of Tricuspid really exists: movement within the alien environment is smooth and utterly believable, and the mission is all the more absorbing because of it. The urge to explore is incredibly strong. In fact, this high level of addiction proves to be the game's greatest drawback: cracking it won't take long, simply because you cannot drag yourself away! The useful save game feature is also a major conspirator to the game's short life-span. Either way, the experience is well worth the cost. If you want to lose yourself for a couple of days, see the light: buy Dark Side "

STEVE **96%**

" Dark Side is one of the best presents you could give yourself if you've just finished your exams. But don't buy it before – you won't get any revision done! The depth and complexity of the Freescape environment is bound to keep you glued to your screen. Hardly anything is as straightforward as it looks; there's always the chance of discovering a hidden tunnel or an unknown passageway. The 3-D gives you a strong sense of really 'being there': you can wander around, exploring buildings, searching passageways and fathoming the use of unknown objects to your heart's content. You alone determine the exact route around the vast and hostile moon. The numerous puzzles draw on the best elements of strategy, arcade action and adventure and can get quite tough but there's nothing like the pleasure of solving a problem that's had you stumped for several hours. If you've played Driller you won't be able to resist. If you haven't, rush out and make up for what you've missed. "

KATI **84%**

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: super techniques and pixel accurate drawings make Freescape *the* leading graphics generation system currently being used
Sound: atmospheric spot effects, but no tunes
Options: Load/Save game
General rating: a game of *Driller*'s high calibre which creates its own complex environment and distinctive atmosphere – a game of the future

Presentation	90%
Graphics	96%
Playability	95%
Addictive qualities	93%
OVERALL	**95%**

BLOOD BROTHERS

Producer: **Gremlin Graphics**
Retail price: **£7.99 cassette, £12.99 disk**
Author: **Steve Marsden**

The planet Sylonia is under constant attack from the Scorpions, a band of space convicts who specialise in small plundering raids. Hark and Kren, two 18-year-olds, return from a jet-bike expedition to find their village burning, their home destroyed and their family dead. Shocked and confused they make a pact of blood brotherhood and resolve to seek out the murderers.

Controlled individually by two players, or alternately by a solo player, Hark and Kren make their way through the Scorpions' multiloaded flick-screen complex of underground tunnels and mines. Subterranean platforms overhang hazardous rivers of sludge, anti-gravity surfaces cause the heroes to float, and mining wagons roll dangerously from side to side. Aliens, which need to be shot several times, home in on the heroes and drain their energy. Each brother has a jet-pack for extra mobility, while additional equipment (guns, fuel, weapon units) and looted jewels are scattered around the environment.

PAUL

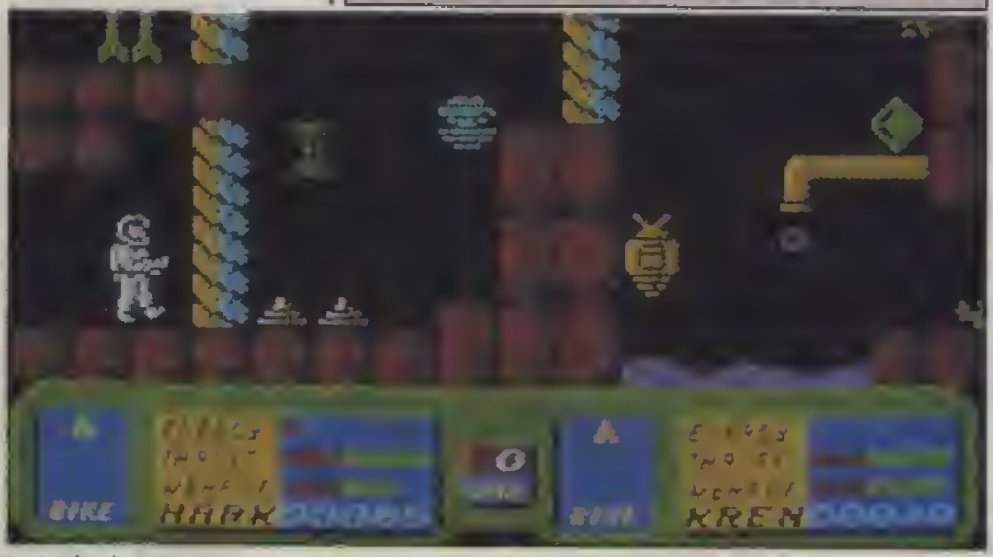
" Blood Brothers is a tale of two levels. One – the jet-bike stage – is very playable and challenging, while the other is repetitive and aggravating. Both, however, feature credible graphics: the first stage is very reminiscent of Micromega's 3-D Deathchase and contains some super animation of monstrous walls and towering pylons as they speed towards you and (hopefully) zoom straight past! Once into the underground stage it's very easy to get quickly bored with the similar appearance of every screen – even though there's three modules – and in my mind this bring the game down to an average level. The recoil action of the man is very clever feature, but proves to be a real pain, being annoying rather than challenging. If you like the underground stage then the game will be a very appealing purchase; however, the average player will only find an average game. "

75%

KATI

" Gremlin have taken the ageing platform formula and spiced it up with an extremely innovative idea. The 3-D jet-bike sequence is exciting enough to stand as a game on its own. Hair-raising gaps, seemingly impassable walls, looming obstacles and incredibly sharp turns make for continuous tension and suspense – not least because the whole procedure looks deceptively easy. What the Sylonian underground lacks in terms of originality, it makes up for with unusual effects. Weapons have a powerful recoil, so blasting willy-nilly through the platform complex needs to be tempered with a little strategic thought. Shoot your laser from an awkward place, and you may find yourself plunging to a sudden swampy death on the unexpected rebound. It's a pity that there's no one-character option, but this is an inconvenience rather than a major fault. Even taking into account this minor quibble you have a polished and very compulsive game. Buy it. "

89%



► A tale of two stages

NICK

" Hmmm. I don't quite know what to make of this. It seems like Gremlin had two games kicking about and just joined them together. The jet-bike section is about the best, with 3-D pillars and a bike that just refuses to slow down! All the dodging and weaving in and out of tight corners is incredibly addictive. The accompanying platform section lets the package down a bit: games like this have been around for ages and they lose all their playability after only a few goes. There are three separately loaded modules in the game, and each one is basically the same, merely having a different layout and a few new aliens here and there. The platform section is neatly coloured although the 3-D section is monochrome. 48K sound effects are just the usual gun sounds, but on the 128K there is a fantastic tune at the beginning. Blood Brothers has the best of both worlds – platform *and* 3-D – which makes it a very addictive arcade game. "

88%

► Hark plays *Blockbusters*

A display shows current energy, thrust and weapon capacity in the form of status bars. As energy and power get used up, the brothers are able share their resources on contact with each other.

Different sections of the mine area can only be accessed via the surface. Pressing fire at the mine entrance switches into jet-bike mode. Taking control of their technologically advanced aerial craft, each brother negotiates a 3-D environment of pillars and walls displayed using a first-person perspective. By weaving in and out of the narrow gaps and shooting obstructing blocks, the blood brothers attempt to reach the next underground entrance. A collision forces them back to the beginning, and if the bike runs out of fuel in mid-flight, it explodes and the rider's life comes to an immediate and premature end. The remaining brother carries on the mission in the hope that alone he may counter the Scorpions' threat.

COMMENTS

Joysticks: Kempston, Sinclair
Graphics: fast, monochrome jet-bike graphics with detailed and very colourful underground stage
Sound: good 128K and 48K title track. Fairly standard in-game effects
Options: one or two players, sound on/off, restart. Three individually loaded modules (environments) of play
General rating: with two stages and three modules Gremlin Graphics have not only provided value for money but also two very attractive and playable games

Presentation	87%
Graphics	86%
Playability	88%
Addictive qualities	87%
OVERALL	**85%**

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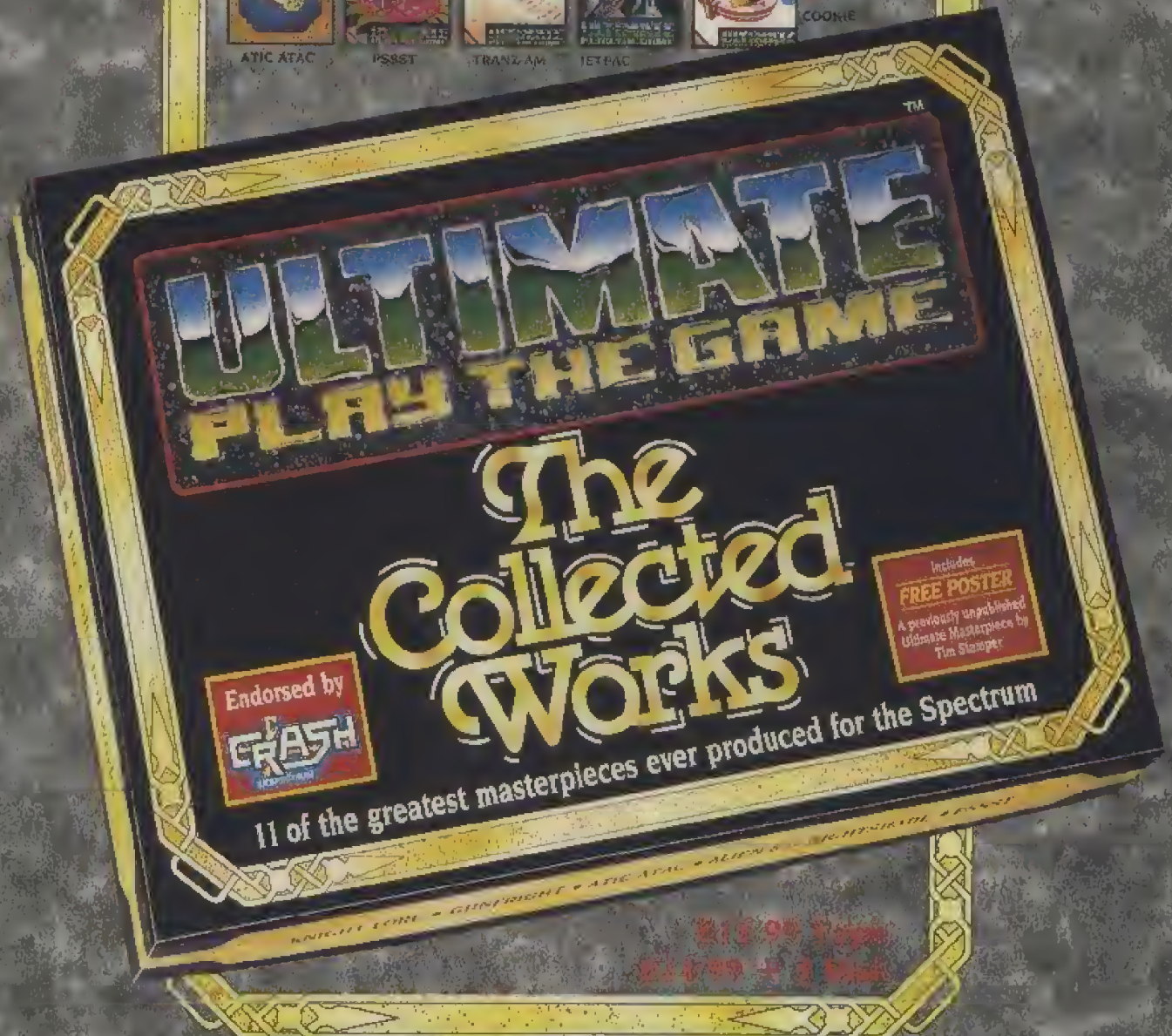

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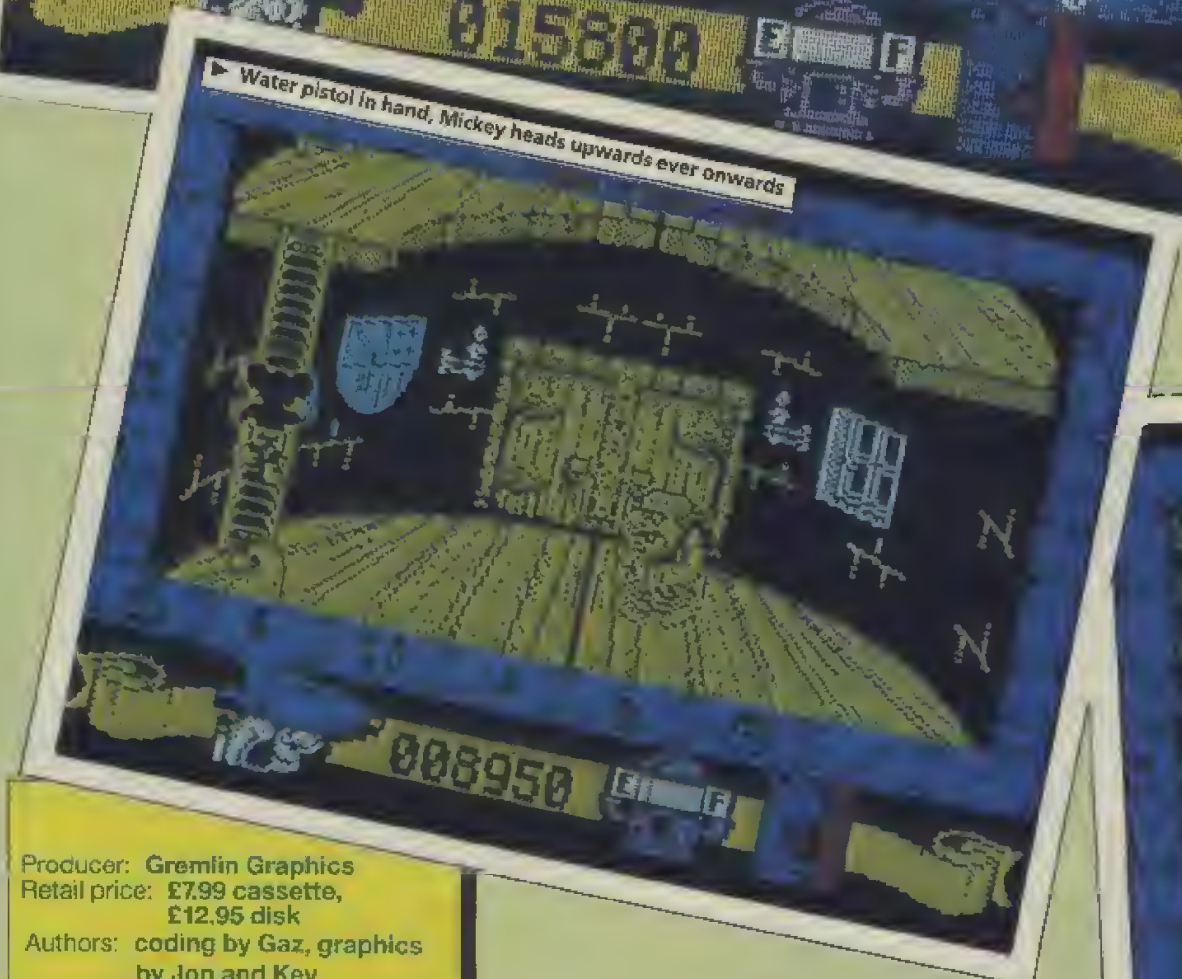

Producer: Gremlin Graphics
Retail price: £7.99 cassette, £12.95 disk
Authors: coding by Gaz, graphics by Jon and Kev

K·E·Y M·O·U·S·E

A CRASH Smash

Famous the world over for more than 50 years, Mickey Mouse has once again got star billing – but this time in his own computer game. The little rodent with the squeaky voice has got quite a job on his hands: Disney Castle has been taken over by the Ogre King and all his nasty little cohorts.

" Gremlin have managed to make a decent game out of a rather strange licence. The vertical scrolling in the tower is very unusual but is very smooth and effective. Mickey moves well, as do the ghosts and ogres; I particularly like the way a large ogre turns into two small ones when hit with the hammer! The idea of having two different types of weapon to kill either ghosts or ogres is interesting and helps to improve the action in the main tower scene. However, this would soon get tedious if it were not for the five sub-games, which make for huge variety in gameplay. Sound is quite sparse but there's the odd tunelet between screens. The only problem is that the game is just that bit too easy and the first tower is soon completed. However it's very playable; one of the best cartoon licences yet. "

PHIL **87%**

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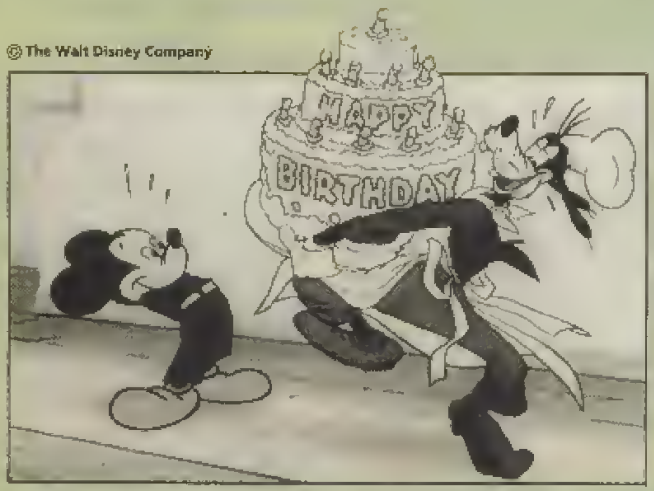


The castle consists of five towers, each of which is viewed from the side and which scroll past vertically as Mickey climbs ladders from floor to floor.

All five towers are completed to save the castle – a mammoth task for such a little mouse you might think, but Mickey is not unarmed in his brave quest: he carries with him a water pistol and a hammer. Ghosts are killed by shooting with the pistol; ogres by hitting with the hammer. If the water runs out Mickey dies.

When our hero kills a nasty it leaves an object behind: a bottle of water to refill his water pistol, one of various magic spells, or a black bubble which stuns Mickey if it hits him. Occasionally a key is left with which Mickey can open one of the doors in the tower.

Each door leads to one of five types of room, containing a further sub-game. One of these is in the shape of a Pac-Man room where Mickey must collect hammer, nails and wood and find the exit to complete the room. Another involves running along a balcony throwing down hammers to burst the rising bubbles while avoiding or bashing approaching ghosts. The remaining rooms include the Donkey Kong room, the Tap and Platform room and the Ogre King's room.

Having completed a room, Mickey returns to the central tower. When he has completed all the rooms, he can pass through the highest doorway to complete the tower; another tower is then loaded from tape.

In the highest room of the fifth tower lies the Ogre King who throws fireballs at Mickey; only once this demon is defeated can Disney Castle be saved.

" That cute little figure with big round ears, shiny nose and spindly tail is unmistakeably Mickey. Having survived the transformation into machine code with a flourish, everyone's favourite mouse is charging around the towers and turrets of Disney castle in characteristic cartoon style. Whether he's bashing ugly monsters with a mallet or squirting them into a liquid pulp, bursting bubbles or collecting glue, he never loses his Hollywood cool. For a mouse, Mickey has plenty to do: with 'upside down' space invaders to pin to the floor, spells to cast, ogres to bash and complex mazes to explore (at breathtaking speed), it's extremely unlikely that he'll ever get bored. All this against a detailed, smoothly scrolling, castle background complete with flickering candles and heavy oak doors. The only elements missing are a few of Mickey's friends. With a guest appearance from Minnie, dopey Goofy or Pluto a great game might have been even better. Apart from that, there's little more a movie star mouse could desire. "

KATI **91%**

" Mickey Mouse, that legendary cartoon hero, has come to the Spectrum with a hammer in one hand and a water pistol in the other. Gremlin have excellently converted him and all his ghostly enemies and surrounded them with a Disney castle fit for a king. All the characters and backgrounds are detailed and animated well, colour has been used tastefully and the sound is great with a tune at the beginning and spot effects and ditties all through the game. Behind the doors in the castle are little sub-games which range from Donkey Kong to Pac-Man and upside-down Space Invaders so Mickey Mouse is in fact many games packed into one! This game definitely has plenty of lastability and the cute graphics will make it a favourite with young and old alike. Gremlin are on to a real winner with Mickey Mouse. "

NICK **91%**

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: superbly drawn and full of character. Colourful sub-stages
Sound: buzzy title tune plus spot effects
General rating: *Mickey Mouse*, star of stage and screen, proves that there can be more behind a cartoon licence than cutesy graphics . . .

Presentation	91%
Graphics	89%
Playability	91%
Addictive qualities	89%
OVERALL	**90%**

▶ One of the many sub-stages of Gremlin's *Mickey Mouse*

HERCULES – SLAYER OF THE DAMNED!

Producer: **Gremlin Graphics**
Retail price: **£7.99 cassette, £12.99 disk**
Author: **Des O'Toole**

As all mythology buffs know, Hercules was the illegitimate son of Zeus by the mortal woman, Alcmene. Zeus' wife, Hera thus hated Herculas and forced him to kill his own children while bewitched. When he recovered, he felt so much remorse that he vowed to do anything to make amends for his sin. The Gods sent him to the King of Argos who gave him 12 difficult tasks to complete: the Labours of Hercules.

The object of the game is to collect these Labours while fighting off a sword-carrying skeleton. When a Labour appears, Hercules hits it to send it flying into his urn. Occesionally a spider descends in an attempt to steal one of his Labours, and is despatched by a successful blow.

Several moves are available to Hercules and these are accessed in the usual manner using combinations of joystick directions with and without fire.

If Hercules collects all 12 Labours he then faces the mighty

KATI

" Hercules may carry a classical theme but it's definitely not a classic beat 'em up. The graphics are attractive enough and, in conjunction with the 128K music, manage to create something of an ancient atmosphere, but the gameplay itself is difficult, awkward and slow. There's an enormous time lapse between moving the joystick and the execution of a punch. By the time Hercules is in any position to deliver a Titans' gift, his opponent has had plenty of opportunity to slap him around the head two or three times. With such an arthritic array of possible actions, Hercules doesn't really have much chance of success. Unless you're into dull, tedious torment, give this a miss. "

48%

PHIL

" Hercules is just a simple beat 'em up, limited by the small amount of available moves and the similarity between opponents. The graphics are mainly monochromatic on an unchanging yellow background, although the scenery above the play area is good. The animation of the characters is jerky, but the disintegration of defeated skeletons is achieved well. The Minotaur is nicely drawn but again suffers from slow, jerky animation. The task of collecting the Labours is very repetitive and, worse still, I found the game much too easy. There's very little challenge and I managed to complete it within four or five attempts! I should think most beat 'em up fans will also find it far too easy. The most difficult part is translating the Greek victory message at the end! "

54%

NICK

" It's obvious that this game's strong point is its graphics. Hercules – Slayer Of The Damned! has some of the most detailed characters and backgrounds that I've seen for ages, and clash is nowhere to be seen! But this is where the good points end: the movements that Hercules makes are painstakingly slow and if he overlaps with his boney adversary you create a new character – a bearded skeleton! The 128K version has a great tune, but which plays constantly and becomes very irritating. On the 48K there is just a blip when you swing your club. It's a bit of a tall order to ask you to collect 12 tasks; after battling for half an hour I had only collected one! Hercules is very pretty but lacks on the playability front. If you're looking for a good bash 'em up there are much better ones on the market. "

60%

WIZARD WARZ

Producer: **GO!/Capcom**
Retail price: **£8.99 cassette, £12.95 disk**
Authors: **G Bolton, P Houbart, D Drake and D Worton**

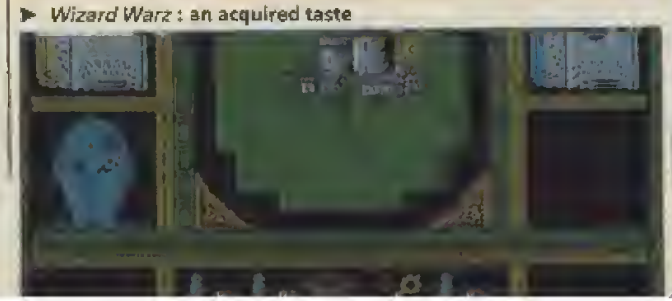
Chief Wizard is an accolade that can only be earned by the best. Taking the part of a junior wizard, the player embarks on a quest to defeat mysterious beasts and seven evil wizards in an attempt to gain the coveted title.

MIKE

" Wizard Warz is a brave attempt at a role playing game, that sadly doesn't quite make the grade. Graphically, the status screens surrounding the main playing field are effective, especially the spell books and opponent ID boxes. The main play area itself is a bit of a joke though, with a fat wobbling sprite limping around a drab and largely unimpreesive background. Gameplay is slow and tedious; trundle around the landscape for a while, shoot at sprites as blobby as yourself, trundle around a bit more. I soon found myself bored almost to tears by the repetitious nature of the game. Sorry GO!, I can't say that this is a game on which I would readily spend my hard-earned cash. "

40%

► *Wizard Warz*: an acquired taste



PHIL

" Wizard Warz is a strange sort of game with loads of different spells and monsters, and a very long list of instructions. The first level is fairly easy to complete; just defeat the six monsters and return the treasure to the correct cities. Things get harder on the second level with about 30 different monsters. Graphically the game isn't very impressive, with small characters, although the still pictures of the monsters are detailed and colourful. The problem is that in play, all these beasts look identical. There is little sound during the game, but a nice title tune on loading. Using different spells to suit your current enemy is fun and a lot of strategy is involved in choosing the best ones. Wizard Warz doesn't completely hold your attention and the multiload is a pain, but fantasy fans should enjoy it. "

74%

The first of three levels sees the young novice travelling between seven cities and six monstere. The player's movements are depicted on a scrolling map in the centre portion of the screen. The first time the player passes through a town he is given one food ration. As he is spotted, an enemy's image appears on the screen, and

NICK

" The first time I played Wizard Warz I was bored. It was so difficult to get into the game that I felt like giving up there and then. But I persevered and when I finally sussed it out, a relatively good game began to emerge. The graphics are very varied - the figures that appear when you go near enemies are excellent, but the scrolling landscape is very plain end mainly made up of different types of shading. On the sound front there is a tune (if you can call it that) but no effects. I'm sure the programmers could have livened it up audio wise. Once you work out how to control the spells end which ones are best to use on each monster, you can get some fun out of Wizard Warz. It just takes a long time to work out. "

74%

Minotaur (loaded separately on the 48K). This overgrown moo-cow is armed with a trident and deadly horns with which he tries to gore Hercules. If this final opponent is overcome the game is won and a Greek victory message appears.

COMMENTS

Joysticks: Kempston, Sinclair
Graphics: large and detailed, with a colourful background. Terribly slow animation
Sound: white noise spot effects only
Options: minotaur demonstration
General rating: in such a large genre *Hercules – Slayer Of The Damned!* needs to be much more playable if it's to make any impression

Presentation	60%
Graphics	75%
Playability	50%
Addictive qualities	52%
OVERALL	**54%**

battle commences. Each combatant is given the chance to select a spell. Once defeated, a monster yields one of six treasures. Returning this to the appropriate town adds a further two rations to the wizard's stock. With all six treasures safely delivered, the wizard moves on to the second stage.

A test of the player's power locks him in battle against a series of monsters. In the process he fills his book with powerful spells and, once successful moves on to the third and final round.

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: miniscule play area, but detailed and colourful display
Sound: title tune only
General rating: hardly mass appeal, but extremely well accomplished

Presentation	70%
Graphics	68%
Playability	72%
Addictive qualities	70%
OVERALL	**70%**

VIXEN

Producer: **Martech**
Retail price: **£8.99**
Authors: **I McArdle, D Richards**

Raised by foxes and granted magic powers by the Sages, Martech's Vixen carries a Magic Whip and has the ability to turn herself into a fox. Her efforts to stay alive are displayed across a series of horizontally scrolling levels, which are loaded separately in three parts.

As Vixen negotiates the treacherous primeval landscape, a variety of mutant prehistoric creatures rush in to attack. Their touch is fatal, but most beasts are despatched with a well-placed flick of the whip. The whip is also used to transform bonus icons into collectable objects. These include gems for extra points and items for additional time and lives.

Collecting fox-time icons causes a fox's head to progress along the display panel. Once the head has moved to its maximum setting and the current round has been completed, Vixen metamorphoses into a fox and enters an underground bonus level. Here she simply collects as many objects as possible within the imposed time limit. These objects are then used on the surface: mega whips kill all enemies with one hit and mega gems increase scoring potential.

▶ Foxy by name, foxy by nature

KATI

" Vixen's movements are smoothly animated and the transformation into a rather scrawny fox is handled well. However, anyone looking for the kind of excitement promised by the over-exposed publicity campaign is in for a disappointment. The wily heroine simply jogs through a series of similar levels whipping crowds of identical mutants into submission. Metamorphosing into the fox adds some variety, but not enough to keep you hooked, and the bonus items don't add much spice to this tedious procedure. This is a pity because the presentation is professional and gameplay on the whole is very smooth. Martech might not have had to spend so much on promoting the box had they paid a little more attention to the action inside. "

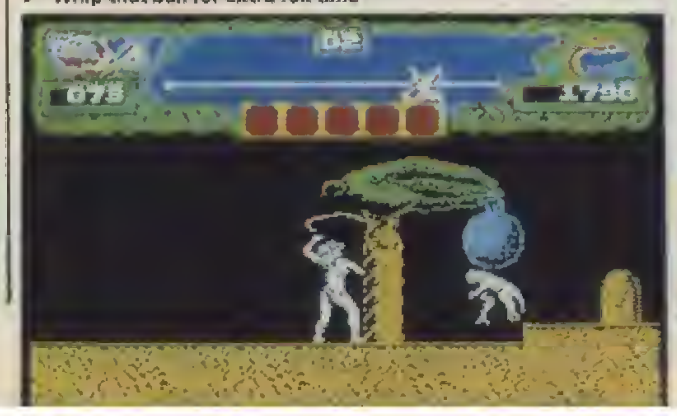
69%

NICK

" Oooh! A skimpily dressed woman carrying a whip . . . Well it makes a change I suppose. Vixen is really three games on one tape, but the only trouble is that they are all very similar. The main character of the game is quite well drawn until she turns into a supposed fox – it looks more like a bleached squirrel to me! Apart from the destruction of a few enemy mammals and the foxy gem-collecting session, that's about it. Vixen plays in a similar fashion to Elite's Thundercats, but lacks the glamour and slickness that Thundercats had. A groovy 128K tune brightens up the title screen and there are some whiplashing sound effects but, as usual, 48K owners miss out on the music. If 'average' is good enough for you, then *whip* down to your local software store and get a copy. "

50%

▶ Whip that ball for extra fox time



PAUL

" After all the sexist (and sexy) promotion, Vixen has turned out to be quite a pleasing game. So it's basically Thundercats with less variation, but at least it's moderately playable and addictive. The hookability doesn't last long, though, and you're left with a feeling that £8.99 is a lot to pay for a couple of weeks' fun. There's no arguing that Vixen has some great features – the cracking whip and superb animation of the foxy lady to name a couple – but it lacks the variation that makes you want to load it up again and again. With a bit of thought the authors could have had various tasks to complete on each level and a different range of monsters to defeat. As it stands, Vixen's attraction is short-lived. "

60%

COMMENTS

Joysticks: Kempston, Sinclair
Graphics: smoothly animated main characters moving against detailed backgrounds
Sound: little for 48K owners, but 128-ers will be pleased with the bish/bash title tune
Options: choice of three individually loaded game environments
General rating: after all the hype *Vixen* has turned out to be quite an attractive little game, albeit with short-lived potential

Presentation	[illegible]
Graphics	64%
Playability	61
[illegible] qua[illegible]	[illegible]
OVERALL	60

DESOLATOR

Producer: **US Gold**
Retail price: **£8.99 cassette, £12.99 disk**
Authors: **Source from the Sega coin-op *Halls Of Kairos***

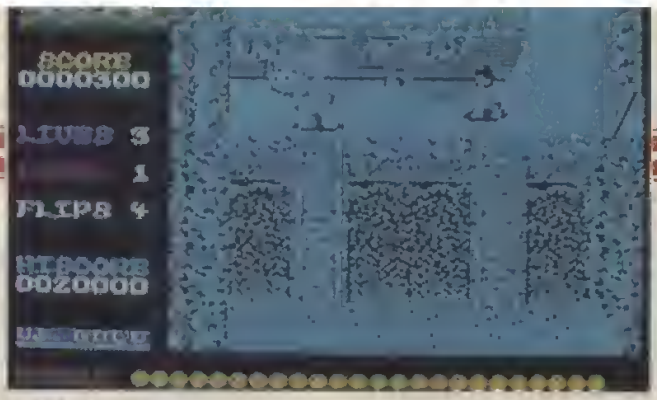
The evil Kairos has kidnapped the entire infant population and imprisoned them in his castle. Mac, hero of the coin-op, *Halls of Kairos*, is called into immediate action.

His quest takes place over five levels (multiloaded on the 48K) within the monochrome passages of the vertically scrolling fortress, which are viewed from above.

A charm has imprisoned the children in the many mirrors hanging from the castle walls. They are saved by punching the mirror panels and collecting the toddlers as they are released.

Progress is impeded by Kairos and his cronies; henchmen absorb energy on contact, firemen fire flame shots and swordsmen throw a continuous volley of sharpened knives. Mac's dwindling energy is shown by a bar at the top of the screen.

Initially, Mac has no armour and can only fight hand to hand. By



► Roll out the barrel . . .

KATI

" Another maze game with little to amaze. The presentation is competent enough and the generally uninteresting graphics have one or two nice little touches. Unfortunately the gameplay doesn't offer much to get excited about – hand to hand combat soon becomes tedious but, other than a few bombs, there's no real alternative. A greater selection of weapons might have boosted the game's waning appeal. Exploration, another essential ingredient of maze games, is glaringly absent here. The castle simply scrolls upwards, so your route through its forbidding chambers and passageways is more or less predetermined. There are plenty of excellent Gauntlet-type games around so there really isn't much excuse for producing one as bland and standard as this. If your quest is for a maze-game, seek elsewhere. "

58%

PAUL

" Graphically Desolator is great. Every character is very detailed and moves around realistically. The game may be monochrome, but that doesn't detract from the smart visual impression. Desolator does however lack the speed that is required to make it an action-packed game. It takes what seems like an eternity to cross the play area, and Mac's actions are very slow reacting to frantic keyboard presses. This is where Desolator, which could have been a great game, turns into a very average one. Less characters and more speed would have created a winning formula for Desolator. (Which is presumably why it was so successful in the arcades.) But it not only lacks playability, but also addictiveness – not really worth nine pounds. "

60%

PHIL

" The perspective in Desolator is rather strange, but although the playing area is entirely monochromatic, the nicely shaded graphics do create a feeling of solidity. There are plenty of well animated enemies to vanquish and the action is fairly frantic. Sound is unfortunately limited to spot effects with no tunes (even on the 128K). Despite all the various types of enemy, the gameplay is very similar for each level, simply punching the nasties while collecting treasure and extra energy. This repetition spoils the overall lastability. The game is fairly well presented but lacks that vital ingredient which would have made it more addictive. "

63%

THE FLINTSTONES

Producer: **Grandslam**
Retail price: **£8.95**
Authors: **P Harrap and S Hollingworth**

Fred Flintstone is looking forward to the Bedrock Super-Bowl final at the weekend, but Wilma has other ideas; she won't let him go before he's painted the living room.

His reluctant artistic efforts are hampered by his daughter Pebbles, who constantly scribbles on Fred's freshly painted wall, and his live paint brush's desperate bids for freedom!

On finishing the whole wall, Fred and Barney set off for the bowling contest in Fred's jalopy. Hitting one of the road's hazardous

► Yabba dabba doo to you too

PHIL

" I didn't quite shout 'Yabba Dabba Doo' while playing this but it's certainly very playable. None of the four parts are particularly brilliant but together they make quite a fun package. Painting is soon mastered but I couldn't get to grips with the car journey. The bowling is the best part of the game – I love Barney's *flamboyant* bowling style! – and the rescue scene is just a simple platform game. The graphics are sparsely coloured but do retain some of the humour of the cartoon. The animation is smooth and effective with plenty of nice touches, like Fred frowning while he's doing the painting. On the whole though, the game is slightly too easy and therefore shouldn't take long to complete, losing most of its appeal in the process. Not a bad attempt – but not a fantastic game either. "

71%

KATI

" The trials and tribulations of Fred Flintstone's life often have him screaming with rage. Play Grandslam's game and you'll soon be joining him. Experience the unique frustration of attempting to paint the walls down to the final invisible pixel with a super-human Pebbles at your heels. Even when the wall looks completely covered and you'd need a microscope to see the remaining paintless piece, Wilma and Betty treat you like a jerk. If you're lucky enough to get to the bowling alley you'll participate in a botched and tedious evening off. The controls are primitive, pin-fall is unrealistic and clever, computer-controlled Barney Robot is almost *always* bound to win. In recreating all the irritating aspects of Fred's life, the programmers have managed to leave out every possible scrap of fun. The cartoon presentation is extremely polished (even the familiar tune is recognisable) and there are plenty of peripheral details; unfortunately they can't stop Bedrock from approaching rock-bottom. "

52%

punching rolling barrels and collecting bomb icons, however, he can improve his weapon power. Picking up six infants temporarily transforms vulnerable Mac into invulnerable Machoman; for a few moments he can march through the castle without fear of harm.

Points are boosted by collecting a series of treasures. Points possessed on capturing these determine exactly how much Mac's score improves or the strength of enemy forces changes.

At the end of each level, Mac encounters a particularly daunting set of enemies. These have to be killed before he can move on to the next.

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: monochromatic and very detailed – well animated
Sound: average spot effects, but lacking a tune
Options: definable keys
General rating: an attractive, but restrictive, maze game

Presentation	70%
Graphics	65%
Playability	60%
Addictive qualities	58%
OVERALL	60%

outcrops sees the removal of one of the wheels, forcing Fred and Barney to stop and replace it.

On to the Bedrock Superbowl where Fred and Barney slug it out on the polished lanes.

Later, Fred arrives home to the news that Pebbles has escaped and is clinging to a girder on a building site. Fred has to rescue his daughter – or suffer the embarrassment of seeing Barney do the job for him!

COMMENTS

Joysticks: Kempston, Sinclair
Graphics: all your favourite characters in glorious monochrome
Sound: TV title tune on the 128K, sound effects only on 48K
Options: practise painting or bowling sections
General rating: the humour and character of cartoons is difficult to represent within the strict confines of a computer game and, like so many attempts before, *The Flintstones doesn't quite manage it*

Presentation	68%
Graphics	74%
Playability	60%
Addictive qualities	57%
OVERALL	62%

STREET SPORTS BASKETBALL

Producer: **Epyx/US Gold**
Retail price: **£8.99 cassette, £12.99 disk**
Authors: **J Bagley and D Horton**

Forget official tournaments, professional teams and air-conditioned arenas – real basketball is played in the streets. All you need is a ball, a makeshift court and a couple of teams . . .

You can choose from a selection of four courts, including a playground, alley, suburban street and parking lot. A human or computer opponent (with three skill levels: easy, intermediate and tough) is selected. Team names are chosen and a coin is spun to determine who gets to select a team first. Three players, recruited from a gang of ten streetwise kids (each with their own abilities) make up each side.

The scene then switches to the horizontally scrolling court itself. Still portraits of each team member are depicted at the side of the screen, and one player is controlled at a time. Should the ball move out of his reach, control of another team member is assumed by pressing fire.

Various offensive moves can be performed: dribble, hook shot, slam dunk and jump shot. Running head-on into an opposition player dribbling the ball transfers possession. Pressing fire while facing one of your team-members initiates a pass. To shoot, a player needs to be in the correct position, facing the basket. At a press of the fire button he (or she) attempts the most appropriate type of shot, and the current score is displayed at the base of the screen.

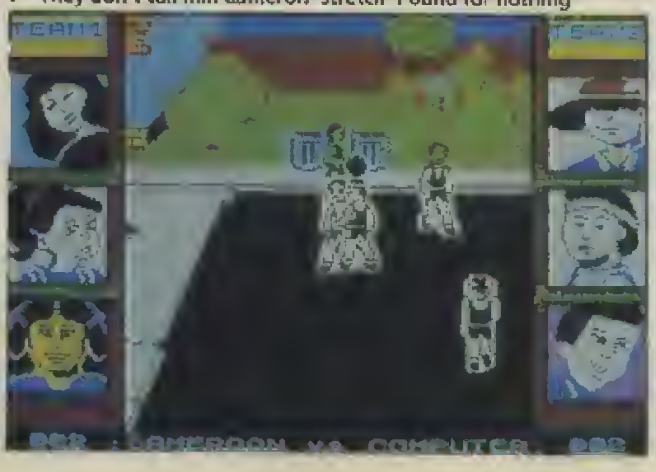
CRITICISM

● "Epyx has a reputation for excellent presentation and *Street Sports Basketball* matches up to expectation. The elaborate selection process, the spinning coin and the streetwise players create an atmospheric urban environment. Unfortunately the basketball lets it down. Control is extremely awkward: instead of automatically playing the team member that's nearest the ball, you have to toggle between the characters highlighted on the screen display, which is clumsy and time-consuming. The teams and characters are hard to distinguish on court; identifying your players is a matter of trial and error. This isn't so bad when there are two players but in terms of fluidity the game still leaves something to be desired. If you're after a really good sports simulation look elsewhere."
KATI **56%**

● "Streets Sports Basketball **looked promising with its array of options, but the game itself has turned out to be pretty tedious. One of the main problems is the awful control method, where instead of control automatically passing to the nearest player to the ball,** Match Day-**style, you choose control of each player individually. This can lead to annoying mix-ups. Even when the control method is mastered, gameplay is very dull: scoring is simply a matter of running up to the basket and shooting when underneath it. Both teams are black and white making it difficult to tell whose side a player is on, the animation is very jerky, and sound virtually non-existent. Overall it's a pretty poor version of the sport."**
PHIL **48%**

● "*Hot on the heels of* Basket Master *a couple of issues back, comes another dose of Harlem Globetrotteritus in the shape of this mediocre basketball game from the Epyx stable. I found the presentation of the option screen to be good, but was not as keen on the actual gameplay. The main character sprites look and move like cardboard cutouts; if this is indicative of the state of health of the kids who play* Street Sports Basketball, *I'm certainly glad that I'm an armchair sportsman. Not that I'll find myself coming back to it very much in the future, since the gameplay is far too easy. I'm afraid to say that* Street Sports Basketball *is a game to be missed.*"
MARK **46%**

► Come on girl. I thought this was basketball not football

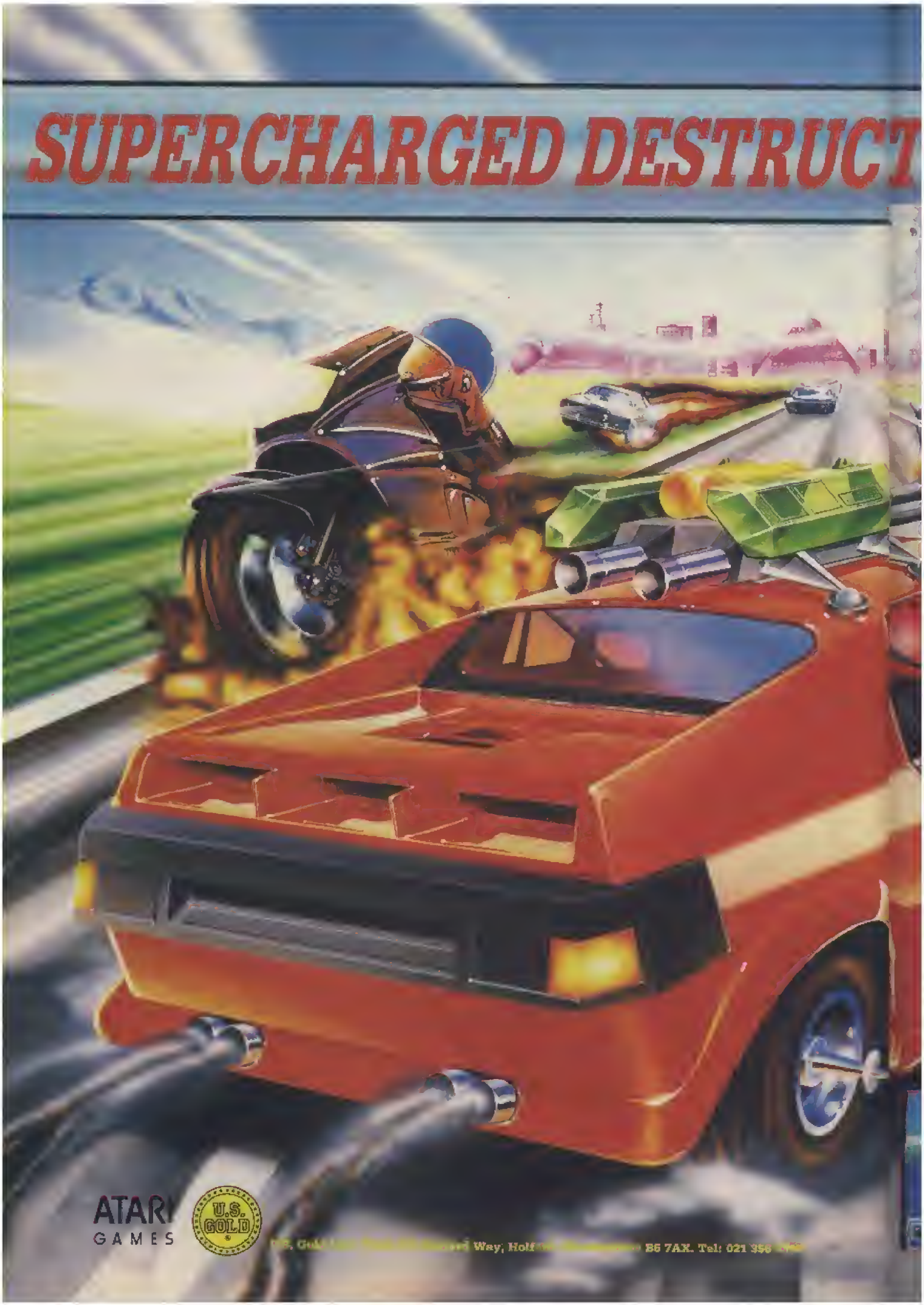


► They don't call him Cameron 'stretch' Pound for nothing

COMMENTS

Joysticks: Cursor, Kempston, Sinclair
Graphics: well drawn, transparent characters and colourful backgrounds
Sound: lacking in all respects
Options: one or two players, definable keys
General rating: Initially exciting, but the game lacks all of the presentation's sparkle – real fans will be disappointed

Presentation	72%
Graphics	57%
Playability	49%
Addictive qualities	45%
OVERALL	49%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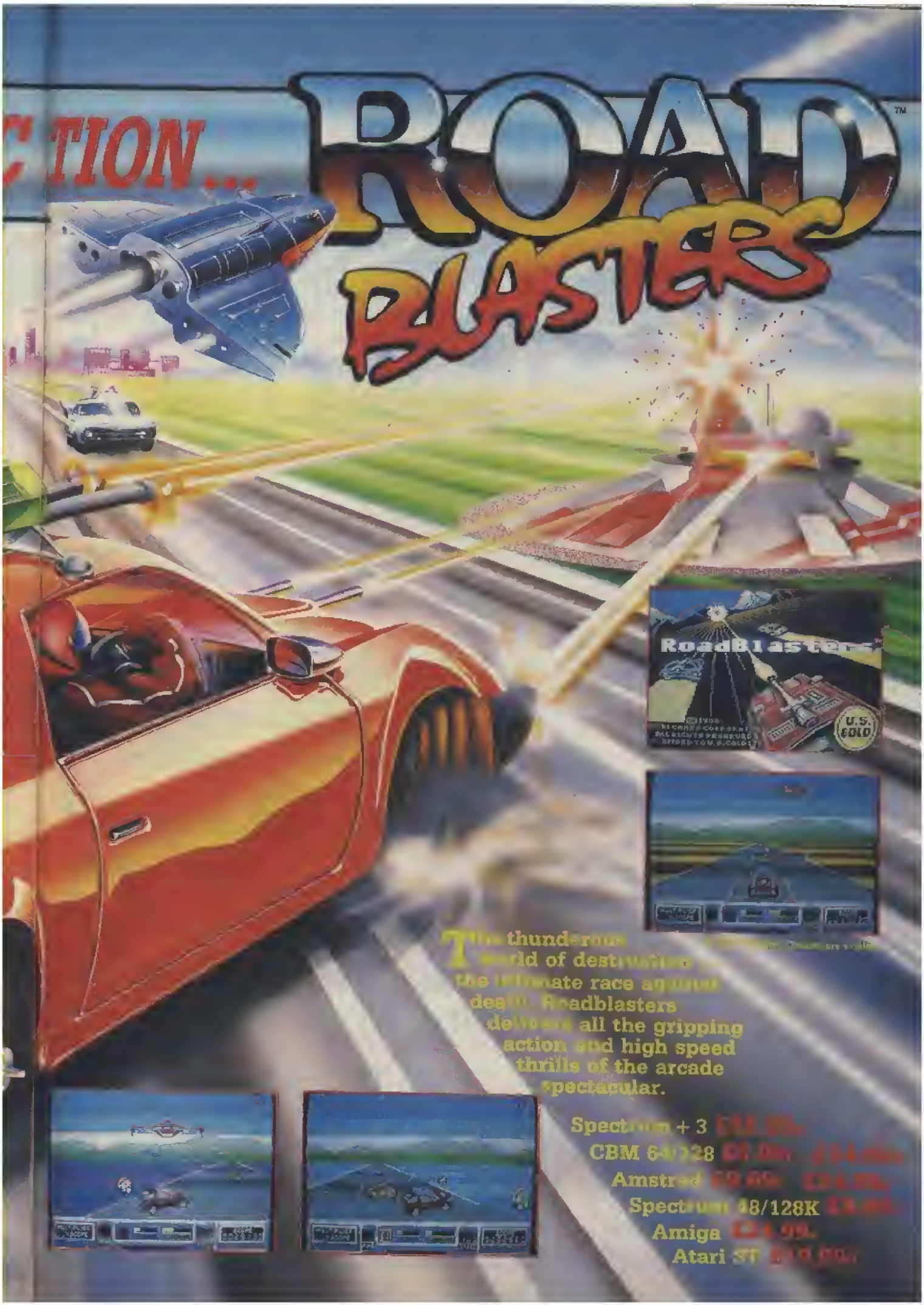

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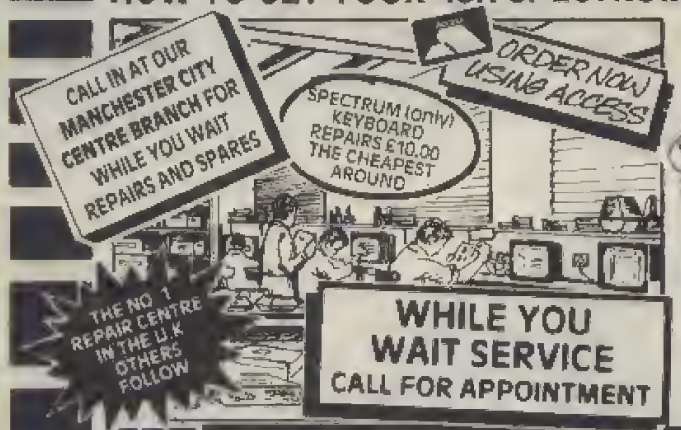

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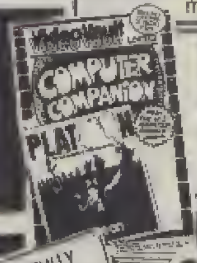

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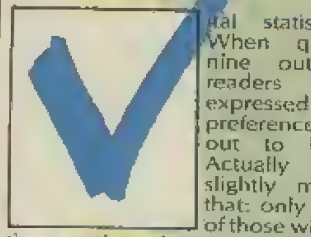

Vital statistics first. When questioned, nine out of ten readers who expressed a preference turned out to be male. Actually it was slightly more than that: only about 4% of those who filled in the questionnaire were members of the not-so-gentler sex.

Age next. The largest single age group (by a sliver) turns out to be 15 with 14 running a close second. Somewhere around the salad days of sweet 16, interest in computer games (or questionnaires) obviously begins to wane. Only a very small percentage turned out to be over 19 and numbers fizzle to practically zero over the grand old age of 40. One or two babes in arms were only 9.

Inevitably, just under 70% of those who participated are still at school; only about 9% are at college or university, 14% are working, 6% work part-time and under 6% are unemployed.

On to the most important bit—money. If you've got loads you certainly don't spend it on computer games. The vast majority claim that they spend a loving £2-£5 on their hungry Speccy a week. Hardly anyone at all owned up to wasting their golden pennies to the tune of over £20. Which means that the average CRASH reader spends between £104 and £260 on computer games a year. Multiply that by 96,200 – our current circulation – and you get a rough idea of what the industry makes from CRASH readers alone in one year (for the less-than-mathematically minded, that's between £10 and £25 million!).

From basics to peripherals. Just under a third said they intended to purchase a utility or a peripheral in the next six months; almost the same proportion had just bought one. By far the most popular was the trusty joystick, closely followed by various types of multiface and games-writing systems. This leads to the devastating (well, fairly ordinary) conclusion that the vast majority of people who read a games-orientated magazine are mostly interested in playing games. No applause please.

On to the hard stuff. Despite pessimistic predictions on the future of the eight-bit market, of those who intended to buy a computer or games console in the near future, 25% (the largest group) claimed they'd stick with the humble Speccy. The Atari ST was pretty close behind though, with 22% and the as yet unreleased SAM was coveted by a surprisingly large 16%. 8% were saving their hard-earned pennies for a Sega console and a tiny minority expressed more than a passing interest in the Amiga, Apple Mac and the powerful-but-only-has-two-decent-games Archimedes. With the arrival of 16-bit machines, interest in the Commodore 64 (now out of production), the Commodore 128 and the Amstrad CPC (two of last year's major competitors) has definitely waned.

When it comes to parting with that hard-earned cash, 67.5% said that their choice of game was most influenced by its magazine review (quite right too). 10% trusted a friend's recommendation, while 10% were more interested in the price. Only a few felt most influenced by the name of the author, and even less by the producer and the advertising. It's an interesting change from last year when the author was right down at the bottom of the list and the advertising way up in second place . . .

As to how well-read you are – well, just under a quarter bought one of the first five issues of CRASH. A large set of readers were recruited around issue 15 and there was another upsurge of interest between issues 36 and 40. An encouraging 66% had bought every consecutive magazine. The majority of the non-regular buyers were pretty content with a collection of between ten and 20 occasional copies.

Most were pretty keen to let one other ▶

person thumb through the pages of their crisp new CRASH but around 30% prefer (maybe no-one else is interested) to keep it to themselves. 20% of those who answered share their copy with two other people and 16.5% have three keen computer-using brothers or friends. That means that over 260,000 people (or thereabouts) see CRASH every month!

FOOD FOR THOUGHT

Now for the competition. In addition to CRASH, the most frequently bought magazines were *Sinclair User* and *Your Sinclair*. *The Games Machine* came next, followed by *C&VG*, *ACE* and the slightly more serious *Popular Computing Weekly*.

When you've finished wading through all this literature, what sort of games do you enjoy playing most? Top of the list (surprise, surprise) comes the ever-popular shoot-'em-up. In second place we have arcade adventures and simulations in third. Adventures are just a smidgeon ahead of strategy and down at the bottom (probably because it's not an area we concentrate on much) come RPGs.

Now for the annual CRASH features chart depicted in glorious tabulated form for your personal delectation and delight. Only a few changes here: REVIEWS have just ousted PLAYING TIPS from the top slot, adverts have dropped from 10 to 13, TECHNICHE and JETMAN have moved up four places each and NEWS has slipped down from 7 to 12. There were too many comments to mention but we've taken personal note of them all.

Next it's really down to the nitty-gritty. We asked whether the reviews were detailed enough. 82.5% say 'Yes'. Long enough? 81.5% think they are, though 55.5% would like to see more screen shots. Detailed enough? 82.5% (who is this .5% anyway?) say 'Yes'. As for the ratings, only 5% always agree with them, 75% agree more often than not. 19.5% think they're right occasionally and a strong-minded 5% feel they're rarely accurate (thanks, guys). 67.5% are perfectly happy with the reviewing system exactly as it is.

Do you use CRASH as a source of reference when buying software? 46% say 'Always', an independent 52% give a non-committal 'Sometimes' and under 3% say 'Never'. The majority thought that the covers were great, just over a quarter thought they were okay and about 1% thought they were rubbish (thanks for reading far enough to get to the questionnaire).

Now for the other stuff. Not surprisingly, considering that most readers are still at school, the average weekly income is up to £5. Just over 15% receive between £5 and £10 pounds, 10.5% earn between £30 and £100 a week and a tiny minority have a bulging wad of notes to the tune of over £200 to take home.

Most invest their shiny silver pennies in clothes from the larger retail chains and buy no compact discs at all. In an average month 40.5% buy a single, 20% an LP and 33% a cassette. LPs are by far the most popular; 63% buy about 24 of them every year.

THOUGHTS OF FOOD

Now for your eating habits. On the whole the questionnaire revealed a healthy-sounding lot. Only 19.5% buy canned drinks once a day or more often and a mere 29.5% indulge in a daily dose of crisps, peanuts or sweets. In the fast-food stakes, the local fish and chip shop in first place just beats MacDonalds by a pipsqueak (preferably with fries). Next comes the Wimpy with 10.5% of the vote, closely followed by Pizza Hut, Pizzaland and Kentucky Fried Chicken.

Once a month or more often, when they're not playing games or doing homework, 28.5% say they go to the cinema. By far the most popular types of books are horror and fantasy fiction. Humour and science fiction come next, then computer books (what a scholarly lot), general fiction, non-fiction and thrillers. Down at the bottom of the list come film and TV tie-ins, war books, historical novels, and romance.

From books to the box. No change from last year here: BBC1 remains a firm favourite with 53% ahead of its nearest rival, ITV, by 33.5%. Channel 4 gets 4% of the vote while BBC2 comes in last, surprisingly just behind the newcomer, satellite TV. 38.5% spend up to three hours in front of the gogglebox a day, 34.5% watch for up to five hours and a comparatively large 20% sit glued to the screen for five hours or more. Only 6% watch less than an hour's TV per day.

And that's it: the end of another exciting survey. In traditional style it's time to thank all those who took the time to put ticks in the boxes, those who didn't answer the questions and those whose comments gave us plenty of food for thought. One final thank you to Dave Peters, eminent compiler of figures and keeper of the database. Same time next year?

CRASH CONTENTS CHART

1 ..... REVIEWS
2 ..... TIPS
3 ..... COMPETITIONS
4 ..... PREVIEWS
5 ..... MAIL ORDER
6 ..... JETMAN
7 ..... FORUM
8 ..... CHARTS
9 ..... ON THE SCREEN
10 ..... TECHNICHE
11 ..... SUBSCRIPTION OFFERS
12 ..... NEWS
13 ..... ADVERTISEMENTS
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16 ..... ADVENTURE TRAIL
17 ..... FRONTLINE
18 ..... RESULTS
19 ..... EDITORIAL
20 ..... KING GRUB
21 ..... ET AL
22 ..... PBM
23 ..... CRASH COURSE

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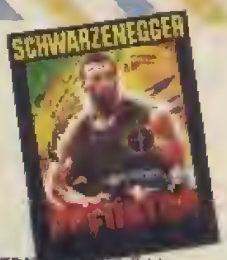

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No 23 December 1985
Melbourne House! Computer graphics! Artist: Dave Beeson!

No 24 Xmas 1985/86
Artist: Oliver Frey! Gargoyle Games profile! Lloyd's Lookback! Hewson profile!

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Durell profile! Microsphere! FORTH and extensions to ZX BASIC!

No 26 March 1986
St Bride's profile! Spectrum 128! Micronet 800! Multiface 1!

No 27 April 1986
Playing Tips supplement! Mel Croucher! Imagine profile! PBM convention!

No 28 May 1986
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First PBM Mailbox! Homegrown software! Realtime profile! Maps: Cylu, Sir Fred, Saboteur, Tantalus!

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No 32 September 1986
Programmer: Dave Perry! GAC! Maps: Core, Ghosts 'n' Goblins, Bobby Bearing! Echo Synthesizer!

No 33 October 1986
Programmers: Jon Ritman, Costa Panayi! Maps: Dan Dare, Cauldron II! SpecDrumming!

No 34 November 1986
Programmer: Don Priestley! Genesis Update! Maps: Dynamite Dan II, Equinox, Universal Hero! Music Machine!

No 35 December 1986
Designer: Dan Malone! Computer Advertising! Maps: Glider Rider, Thrust, Lightforce! MIDI!

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John Richardson: Jetman! CRASH Reviewers revealed! Match Day Challenge! Maps: Fairlight II, Firelord, Avenger, Dandy!

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Fanzines! Designer: Bernie Drummond! Maps: Cobra, Impossaball, Uridium! MIDI!

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Arcades Update! The Z88! Programmer: Steve Taylor! Maps: Nosferatu, Double Take, Future Knight, Feud!

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No 48 Xmas 1987/88 (January 1988)
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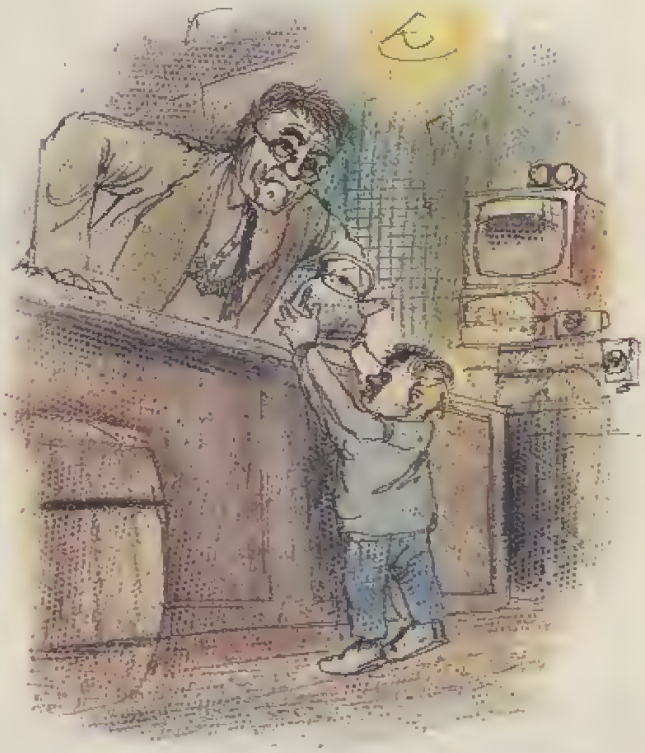
In the first of an occasional series examining the far-reaching effects of computers on today's society, Mel Croucher uncovers the truth about:

COMPUTER ADDICTS

True or false? Five Cheltenham boys tried to commit mass suicide after becoming addicted to Space Invaders, **True or false? Over 200 Tokyo boys have turned to prostitution in order to raise cash to feed arcade games. True or false? A Danish student has been committed to a mental hospital because he thinks he has turned into a computer. True or false? An American boy murdered a child because he was ordered to buy a game of** Dungeons And Dragons, **True or false? Over £3 million is spent in British video arcades every day. True or false?**

People have been arguing for years about whether or not there are any dangerous side-effects from playing video games. In fact there has been more rubbish written about this subject than any other aspect of computerised entertainment. MONITOR does not intend to ram any opinions down your throat: it simply gives you the facts. Now you can make up your own mind . . .



Video arcades make money. Loadsa money! Last year over £1,300,000,000 was eaten by hungry video arcade slots. And before you write in to CRASH, I promise you that I haven't stuck on any extra zeroes to that incredible figure. The police confirm that these arcades are also used as centres for drug pushing, flogging off stolen gear and as pick-up joints for young male prostitutes. Even though 'underage' players are illegal, a South Coast arcade operator has admitted to me that eight out of ten people who use video arcades in his resort are under 18 years old. But even if they are banned from the arcades, the younger kids are also much more likely to come across video games, which are common in cafes and chippies, than fruit machines, which are age-restricted to pubs, clubs and those wicked video dens.

In the average British home, the computer has the following effect on a 'normal' user: it begins by replacing most other social events and is used more than 15 hours a week. After three months, the average use of a home micro or games console falls to around 6 hours. After a year, 35% of machines are gathering dust and hardly ever get used. The number of games owned by a player has no link whatsoever with the number of hours spent playing them. Games players' popularity is not affected – in fact you tend to get more popular with your mates in the first three months of micro ownership. None of the computer users and video games players in the survey dropped marks at school while they were involved with playing, which should please my readers. Unfortunately you won't be pleased to learn that video games players had lower average marks than non-players, both before and after the survey. So much for 'normal' players.

'Arcade Addiction' and 'Computer Addiction' takes hold when a games player becomes so involved with the machine that other aspects of his life begin to suffer. The subject has been very carefully researched by the British Journal of Criminology.

Addiction often begins when a player starts to miss school in favour of playing video games, and addicts are likely to go without food so they can afford more plays. A 'Criminal Player' is anyone who has stolen money for the sole purpose of feeding the machines, and that's about 14% of all players. According to **The Times**, last December one kid got into the habit of flogging off the family furniture to afford his video habit. When he sold the kettle, his mum put the saucepan on for a cup of tea, but when she came back into the kitchen it had disappeared! Junior had nicked it and given a whole new meaning to hot goods.

Criminal players and video addicts in Europe, Japan and the USA all begin to play video games at a much earlier age than 'normal' players. They play more frequently, and they spend all of their money on their habit. When the addiction really bites, regular thieving becomes a habit, and players are wide open to getting money through dealing in drugs and flesh. In 1987 the Amusement Arcade Action Group was formed to try and stop the problem spreading, but so far there has been no improvement at all. The general public doesn't regard it as a serious problem; and why should they when most parents gamble, either by doing the pools, betting on the horses or playing video and fruit machines themselves. CRASH readers are well aware that video games are a new phenomenon – you are the first generation who has widespread experience of them. Arcades, friends' rooms and other playing areas provide a space which is free from the usual prying eyes of parents, teachers and other figures of authority. This is also one of the main reasons for players setting up their own 'tribes', just like on the football terraces, with leaders emerging from their playing skills, as opposed to the size of their fists and the thickness of their skulls.

A classic case of a small tribe of video addicts coming to grief happened place in Cheltenham. Five friends, all aged 17 or 18 got into a *Space Invaders* habit that was costing them over £100 a week. The debts started to pile up and soon became serious, but instead of looking for help the group decided that their only way out was mass suicide. They had become so involved in their own world of machines and arcades that they lost touch with reality, even to the point of having their own coded phrases and secret language. The gang of five did indeed try to kill themselves with an overdose of commonly prescribed drugs, and it was only because of a

desperate call to the Samaritans that they were saved.

Recent events in the States have proved more sinister: David Ventiquallro is a 16 year-old who has just been jailed for between 5 years and life for killing 11-year-old Martin Houland. The Prosecution proved that the death was linked to a computerised version of *Dungeons And Dragons*, where the murderer believed that the game had revealed to him that Martin was an evil enemy, and instructed him 'to extinguish the evil'.

In March of last year Westminster City Council took an outfit called the British Amusement Catering Arcades to court, worried that young kids were being abused, in every sense of the word, in video arcades. They won their case, proving that 'video games constitute an exhibition of moving pictures, for the purpose of the Cinema Act of 1909' and 'an exhibition of moving pictures other than by the reception and exhibition of television programs, under the Cinema Amendment Act of 1982'! What all that means is that video arcades needs licenses just like cinemas, and underage kids are not allowed to use them – but everyone knows that most video arcades ignore the law, don't they?

Now we've all heard the arguments, whether it's about video nasties triggering off the Hungerford massacre, or disembowelling prostitutes in CRL's *Dracula*. Some will scream that these products are cynical, corrupting and 'evil'. Others will yell that they are positively beneficial. Indeed, Infogrames' Pauline Garsden has issued a challenge through the trade paper *Computer Trade Weekly* for anyone to produce evidence of computer games having a directly harmful effect on a kid, and she will write out a cheque to Save The Children. So far nobody has come up with the evidence. Sorry Pauline, but it's time to get your cheque book out.

On September 8 1987, an 18-year-old Danish male was committed to a Copenhagen mental hospital. Since the age of ten he has spent most of his time playing with his father's computer equipment, and for the last three years he has been addicted to computer games, playing from 12 to 16 hours a day. The games have replaced his friends and family, and dominate his life completely. The reason he has been removed to a psychiatric ward is that he now believes he is a computer, and has been diagnosed as the first sufferer from a new derangement which translates from the Danish as 'obsessive mechanical mentality'. He can no longer communicate with human beings; he thinks in code and he believes that he has turned into a computer.

This sad case is an extreme example of computer addiction, but most of us know at least one person who suffers to a lesser extent; the quiet kid who spends hours locked up in her/his room eyes glued to the monitor, finding an artificial security in an electronic world. And the computer addict is much more likely to be an introvert than a paranoid and violent psychotic. As far back as 1982, the British Film Institute's education boffins proved that far from violent games turning kids into aggressive monsters, shoot 'em up players were less aggressive than children who spent their time watching televised soaps and game shows. Mind you, anyone who hasn't felt like sticking their boot through a televised Bob Monkhouse or Black Forest Clinic really needs their head examining.

Take a look at the following lumps of research, and see if you know anyone who fits into any of the categories:

COMPUTERS ARE BAD FOR YOU

Reports show that levels of aggression in video games have a direct effect on violent behaviour during and immediately after play, and that girls are affected more than boys! Also, watching aggressive games has the same effect as actually playing them.

In the USA a detailed survey has proved that video gamers are more impulsive and less intelligent that non-gamers. In the UK a similar survey shows that the main reasons for playing video games are excitement, gaining personal satisfaction and being influenced by friends, but that video gamers achieve worse grades in English than non-players.

Unlike alcoholics, drug addicts and gamblers, video game addicts have the lowest awareness of their problem. In fact seven out of ten video game addicts deny that they are addicts at all. They don't see any relationship between their video habit and the most frequent problems of addiction: stealing, neglecting food, getting into debt, cutting off from family and friends, missing school or work, and involvement with drugs and prostitution to feed their video game habit.

The American Academy of Child Psychology states that heavy involvement with video games leads to a lower frustration tolerance, and players are much more likely to lose their temper. They also develop an unrealistic sense of their own mastery. In the over-18 age group, males tend to confuse fantasy and reality much more than female players, especially when involved with role-playing games.

COMPUTERS ARE GOOD FOR YOU

Video games improve eye/hand co-ordination, reaction time and other skills in the over-60 age group, during recovery from illness. They also help the over-70s to improve their driving habits, and geriatric video games players have fewer minor accidents in the house.

In certain cancer treatments, they are necessary to control vomiting. Video games have been successfully used to concentrate cancer patient's minds away from wanting to throw up, and have helped to lessen feelings of anxiety during cancer treatment.

The Journal of Child Studies states that video gamers are more confident than non-gamers and are less likely to suffer from tension.

I have already told you that 70% of computer addicts don't know they've been hooked, but if you are worried by some of these facts you can set your mind at rest by answering a few questions for yourself.

ARE YOU A COMPUTER ADDICT?

Do you play video games or program a computer every day?
Do you ever play or program for more than 4 hours at a time?
Do you play or program more than 15 hours a week?
Do you play or program more than 25 hours a week?
Do you ever spend all your money on video/computer games?
Have you ever stolen in order to play/buy video games?
Have you ever spent money for food on gaming?
Have you ever missed school/work to play video games?
Are you in debt, but still playing the arcades?
Is video gaming/computing your only pastime?
Do all your friends play video/computer games?
Do you feel frustrated/angry if you fail to get a new hi-score?
Are you involved in any way with drugs?
Have you been clinically drunk within the last seven days?

Remember, most computer addicts never admit to themselves that they are in trouble, so if you have answered 'YES' to more than TEN of these questions, you may have a problem. If your video game habit has got you into theft, or illegal dealing, or if you have got into any debt, you have definitely got a problem. There are any number of agencies that can help, and if you find it impossible to talk to parents, teachers or friends who are not involved with your video gaming, you can phone the Samaritans or Childline in complete secrecy. They should be in your phone book, but if you don't know how to get in touch, contact your nearest Citizens Advice Bureau, which is there to help and will tell you how to contact the Help Lines in your area.

In the next bi-monthly MONITOR, Mel Croucher lays down the facts of an even more serious problem: KILLER COMPUTERS.

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From all the entries received – irrespective of whether they're printed or not – there are five winners picked at random. The first prize winner receives **£40** of software plus a CRASH Hat and T-shirt, while four runners-up receive CRASH Hats and T-shirts. So don't forget to tell us on the form what software and T-shirt you'd like – should it be your lucky day!

ARKANOID – REVENGE OF DOH	Imagine
Toby Northern, Barnsley	1208780
M A Oswald, Stamford	307730
Andrew Quick, Port Talbot	135760

ATF	Digital Integration
Kathryn Waldock, Bishop Auckland	28720
Sean O'Donnell, Mablethorpe	15240
Jonathan Owen, Peterborough	5830

BASKET MASTER	Imagine
Darren Purcell, Chaterls	118-08
David Hodgson, Morecombe	96-00
Jon Williams, Aylesbury	56-09

BUBBLE BOBBLE	Firebird
Hemal Popat, London N13	1503460
Andy King, Chatham	470160
Lee Hall, Morpeth	392410

COBRA	Ocean
Andrew Platt, Stockport	592800
Gareth Jenkins, Cumberland	135550
Richard Bailey, Newton-le-Willows	65300

COMBAT SCHOOL	Ocean
Paul Creasey, Fareham	281300
Michael Stirling, West Perry	279500
Mel Davies, Pontypool	52460

CYBERNOID	Hewson
Melvyn Dews, Leicester	179300
Nicholas Young, Saddleworth	17300
Steven Green, Havant	9625

DRILLER	Incentive
Michael Turner, Stoke Gabriel	2118020
Mark Bonnar, Uddinston	1926460
Simon Penfold, Blackwood	205600

ENDURO RACER	Activision
M Needs, Telford	6602523
Jonathan Gulliflat, Mablethorpe	5402746
Colin Price, Halesowen	728135

EXOLON	Hewson
Tom Kelly, Bathgate	2574430
Gary Davies, Speke	2546066
John Hobson, West Whickham	51020

FIREFLY	Ocean/Special FX
Adrian Shaw, Marlow	915940
Jonathan Mills, Coulsdon	512750
Rita Guiness, Newcastle-under-Lyme	487860

FLYING SHARK	Firebird
James Sammon, Bradford	627260
John Gosling, Walsall	578740
Russell Murray, Galashiels	132080

GRYZOR	Imagine
Gerald McCay, Belfast	240100
Lee Johnson, Wallsend	186900
Paul Williams, Towcester	21200

IK+	System 3
Craig Brackenridge, Cumbernauld	452300
D Clayton, Tamworth	149600
Andy Bonner, Leicester	68700

IKARI WARRIORS	Elite
Michael Turner, Stoke Gabriel	3358500
Peter Watkins, Edinburgh	1155500
Matthew Payne, Churchdown	1146400

KARNOV	Electric Dreams
Derek Skilton, Kyde, Isle Of Wight	175720
Tom Norman, Twickenham	70300
Simon Harris, Norwich	41420

PLATOON	Ocean
David Aitken, Kirkintilloch	138000
Anthony Mills, Bellingham	134900
David Wilkins, Bristol	41830

RAMPAGE	Activision
Jeremy Scott, Inverurie	159654
Leigh Loveday, Port Talbot	148100
Colin Drysdale, Kilsyth	6890

RENEGADE	Imagine
Stuart Ridge, Marazion	15273921
Azhar Dubovic, London NW5	1479520
Richard 'Firefly' Scott, Norwich	46300

STAR WARS	Domark
Damien Allen, Gowerton	152125947
John Perry, Bibham	2371934
Colin Thompson, Larkhill	1753150

SUPER HANG-ON	Electric Dreams
Richard Feltbower, Stoke-on-Trent	60908324
Stephen Kent, Warley	12006510
P Phillips, Bristol	169700

TARGET: RENEGADE	Imagine
Ahmos Sansom, Manchester 24	524700
Robert Campion, Exeter	210800
Leigh Astin, Ahram	159800

THUNDERCATS	Elite
Matthew McEvaddy, Claregalway	350000
Stephen Sistern, Peterborough	310200
Jody Nyman, Stanway	24500

ZYNAPS	Hewson
Rhys Smithson, Sheerness, Isle Of Sheppy	344275
J Sammon, Clayton	327690
Brendan Cooney, Dublin 14	56430

WINNERS

The winner of this month's £40 worth of software comes from Scotland. It's **Craig Brackenridge** from the fair town of Cumbernauld near Glasgow. He also gets a much-sought-after CRASH surfer T-shirt, nice choice Craig, and a CRASH Hat. Craig lists *Ikari Warriors* and *Silent Service* amongst his £40 worth of games. The four runners-up, who each get a fabbo CRASH T-shirt and a crazy CRASH hat, are **Trevor Mullen** from Shard End, **Robin Wilkinson** of Kincardine, **James Stoddard** from Solihull and **Andrew Sim** [illegible].

Don't forget – any score sent in to **SCORES** can win you a prize, even if it's not printed – but avoid public humiliation: don't cheat! We've exposed many an embarassed person within these hallowed pages... !

SEND ME YOUR SCORES

MY SCORES ARE:

	GAME	SCORE
1		
2		
3		

NAME .....

AGE .....

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.....

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Send this form (or a copy) with your scores for up to three games to **ROBIN CANDY'S SCORES, CRASH, PO Box 10, Ludlow, Shropshire SY8 1DB.** ONLY GENUINE SCORES WILL BE ACCEPTED; (please contact us if you spot a dodgy one) any improbably huge scores will be immediately binned and the sender will be forced to share a desk with Nick Roberts – a fate worse than attending one of his discos.

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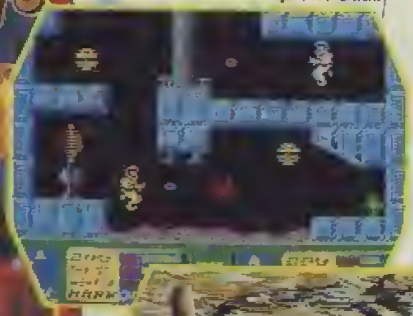
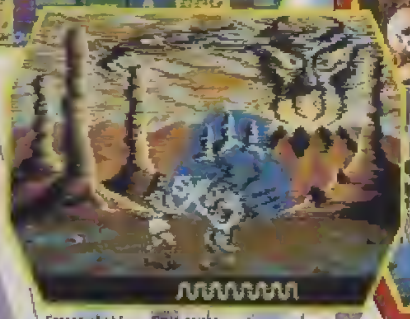
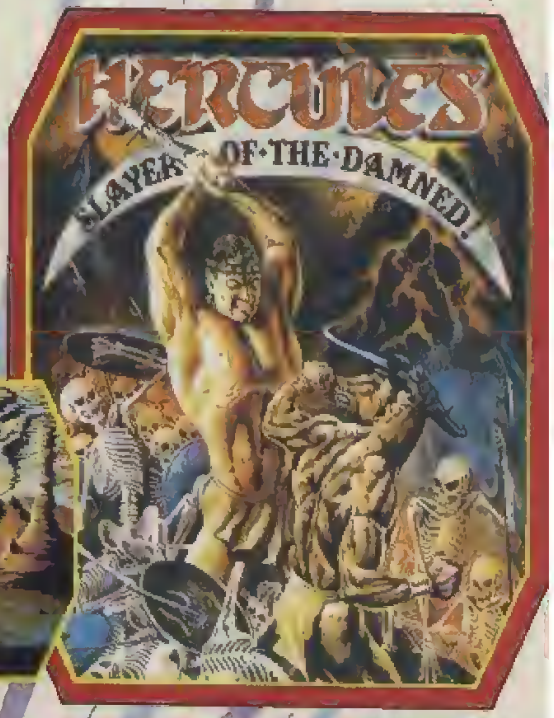


Screen shot from Spectrum version.



Screen shot from CBM 64/128 version.



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Screen shot from Amstrad version.

Screen shot from Amstrad version.

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GO MA MICRO AND GE SPLATTERED

CRASH COMPETITION

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MicroProse simulations have taken the software industry by storm. Products like *F15 Strike Eagle* (84%, Issue 42), *Silent Service* (80%, Issue 38) and *Gunship* (92%, Issue 41) have gained a reputation for quality and style. Forget your troubles, settle down in an armchair and soar through the air in a computerised helicopter, explore the dangerous territory beneath the waves in a silent submarine or tackle the controls of a top-class fighter plane.

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MICROPOETRY IN MOTION COMP, CRASH,
PO Box 10, Ludlow, Shropshire, SY8 1DB

Entries must be received by August 2 and (wait for it) the decision of the appointed CRASH judges remains final and binding in every single teeny-weeny respect.

WINNERS & PRIZES

SAY SO

Issue 52

Remember that trendy Saisho STV990 radio/cassette/TV combination unit that CRL were giving away in Issue 52? Well you'll never guess who's won it (especially when we had almost a thousand entries): it's old Harry Maton from Surrey – and Harry also gets a copy of CRL's game, *Sophistry* (cor, some people get all the luck!).

And you know that Saisho personal stereo that CRL were also giving away, well **Alan Leasels from Midlothian picked up that!** Mind you, 50 runners-up got a copy of the game. **Are you among them? Take a look below . . .**

Brian Callan, Dublin 5 Ireland; P Rander, W.Lothian WF13 3RZ; Scott Guy, Hants SO5 7GH; Andrew Clark, Bucks MK18 7EY; Ian Dachtler, Kent BR8 8AZ; Stephen Coppin, Wilts BA15 1EA; Steven Foster, Merseyside WA11 9NW; A Lawrence, Essex RM12 6RY; John Hobson, Kent BR4 0HW; Richard Lockett, Staffs ST13 6QB; Alastair Cushion, Cambs PE15 9SS; Paul Cottrell, Staffs WS7 8SS; B J Singleton, Wilts SP2 7JE; Robert Aitken, Coventry, CV3 6JU; Nicholas Johnson, Bristol BS15 3DA; J Cochrane Esq, Hants RG23 7HW; Chris Park, Manchester M34 2BL; E Young, Belfast BT8 4HW; Colin Price, W.Nids B63 3JE; Mark Thompson, Bristol BS20 8HF; Colin Andrew, Via Hyde, Cheshire; Chris Bebbington, Cheshire WA8 0AX; Mr M G Evans, Notts NG17 3EB; Shaun Hill, Kent ME13 7SH; D Trigg, London SW19 2TQ; Jonathan James, Birmingham B45 9QQ; Roy Marwood, W.Sussex RH13 8BX; Kevin Shaw, Kent ME1 2QE; John Sneddon, East Lothian EH32 9BL; Guy Laking, Lincs LN11 0XL; Ben Collister, Wilts SN5 6NZ; Stephen Sistern, Peterborough PE6 8ET; L Andrew, Kent TN12 0DD; Mrs J Mitchell, Cumbria CA28 8RX; Stuart Willis, Beds LU7 0RQ; Ian James Goshawk, Essex IG9 5JN; Douglas Laver, Hants PO3 6AX; Christopher Povey, Kent DA11 8NY; Helen Malcolm, Strathclyde KA4 8JW; Duncan Lewis, Derbys DE4 5FP; Bryan Else, Derby DE2 0NH; Stephen Hammond, S.Wales CF4 8JS; Marvin Reynolds, Cheshire CW2 6JF; A Hulmes, Cheshire WA16 7SZ; Jeremy Johnson, Oxfordshire OX8 4LX; Nik Theodorou, Greece; Stephen Johnson, Lancs BB1 5PY; Mitchell Jagd, Denmark; John Gilmartin, Derby DE2 0PB; Paul Kennefick, Coventry CV3 4EB.

FORCEFUL

Issue 52

I'd imagine that **Brian M McDonough** from Manchester M23 is well chuffed at winning the Spectrum +3 (with ten disk games), 14-inch portable TV and *Target Renegade* T-shirt – but after all his entry was the best of thousands that came flooding in for this terribly popular competition. **Richard Winder** from Co Durham came a close second, and he gets ten Ocean/Imagine games consisting of such delights as *Combat School*, *Head Over Heels*, *Match Day II* and *Platoon* – and a *Target Renegade* T-shirt.

Five runners-up get a copy of that fabbo compilation, *We Are The Champions*. They are . . .

Daniel Moscrop, Cumbria CA5 5AW; Ian Waters, London NW6 7LA; Craig Perrett, London NW3 2YY; Shahnawaz Khan, London SE18 2QW; Glenn Taylor, Gwynedd N Wales.

IMAGINE RIGHT ON TARGET

Issue 52

I bet there's loads of people out there who wished they'd won the terrific Sony Watchman that Virgin Games were giving away in their *Action Force II* comp. But, first out of the bag came **Geoffrey Packer** from E Sussex.

Three second prize winners get an *Action Force* Dragon Fly helicopter . . .

O Bazaley, London NW4 4RU; Chris Aylott, Hants SO51 6P; P R Taylor, Leics LE157AU.

Ten further runners-up get a machine crafted figurine of the *Action Force* star, Airtight . . .

Adam Penney, S.Yorks S61 2QT; C Priestman, N.Humbs HU4 7SW; Mark Islam, Lancs BL8 2JU; S Smith, Walsall WS6 6DT; A Brown, London N6 4SP; Mr S Binsley, Hants SP11 9QD; David Challoner, Isle Of Wight PO30 5RR; Vincent Sweenby, Newcastle-Upon-Tyne NE3 1UH; John Venees, Southampton SO2 4LR; Marcus Shadbolt, Wilts BA15 1HG.

And, like all the above winners, ten further runners-up get a copy of the Virgin Games game. They are . . .

D Taylor, Mid Glamorgan CF327BL; N Bere, Kent ME15 0PR; Richard Jones, Hants PO6 0TL; Richard Lockett, Staffs ST13 6QB; Steve Wallis, Dyfed SY23 3RZ; Matthew Treadwell, Surrey KT18 9PF; Simon Blackstein, Middlesex HA8 8RT; Gary Senff, Scotland AB1 4QA; David Thompson, Darlington DL3 8RU; Karl Challener, Lancs BB9 9PL.

All winners, please allow 28 days for the delivery of your prizes. All queries regarding competitions run in CRASH should be sent to **Frances Mable, CRASH, *PO Box 10, Ludlow, Shropshire SY8 1DB.*** Please don't ring Frances as she has enough trouble reading through all your entries as it is.

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ADVENTURE CHART

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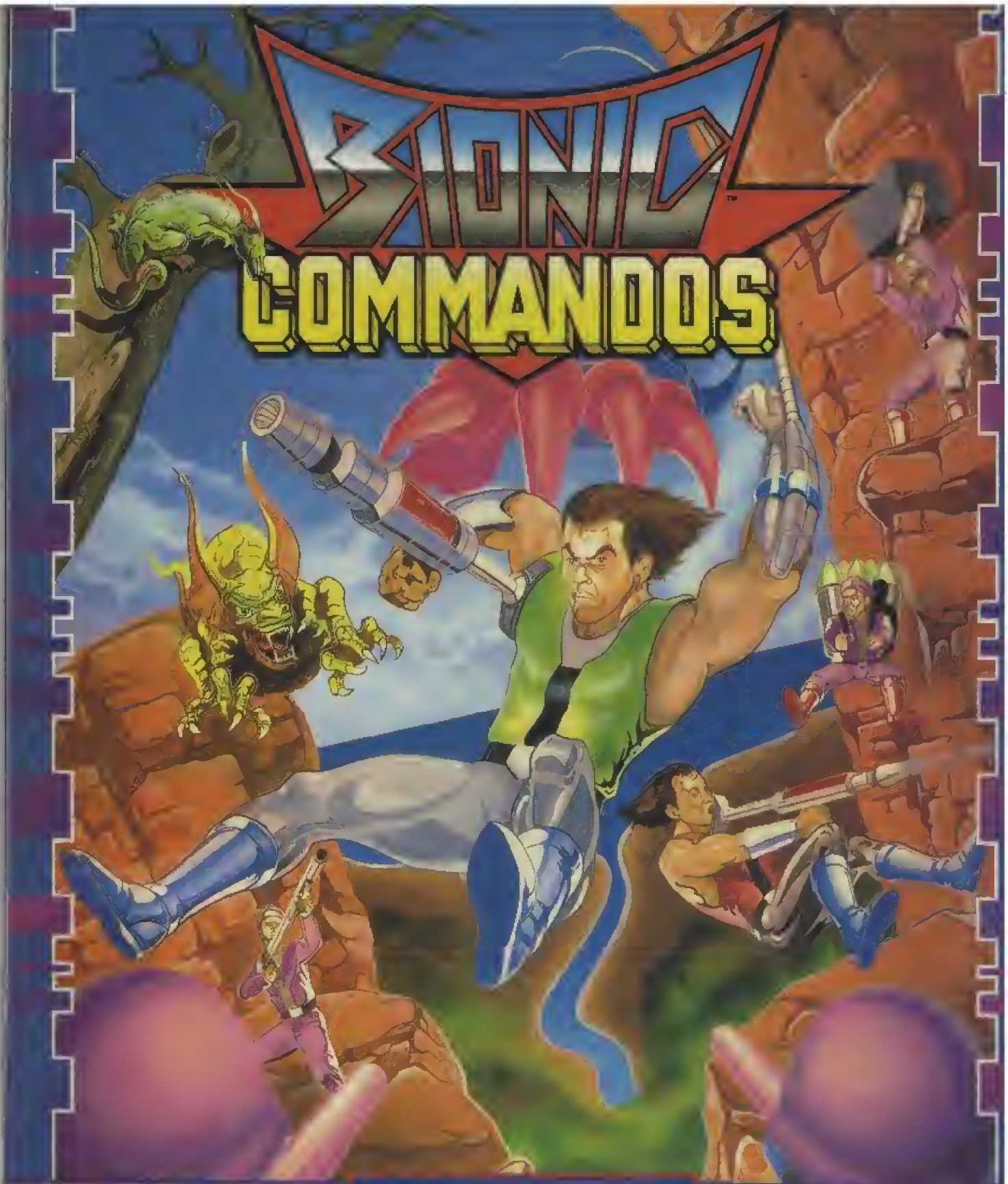

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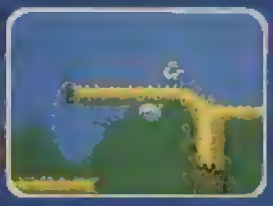

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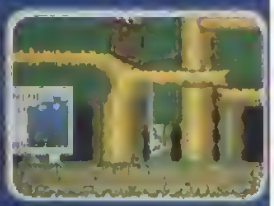

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PREVIEW

Coming soon to a Spectrum near you!

ocean

MAKING WAVES

You voted them th Best Co pany o 1987 in the CRASH Readers Awards. Now, after games like *Head Over Heels*, *Match Day II* and *Batman*, they surely can't produce an unlicensed or unrequested product. They can. Ocean CRASH visited their Manchester-based offices to take a peek at what's coming up over the next few months . . .

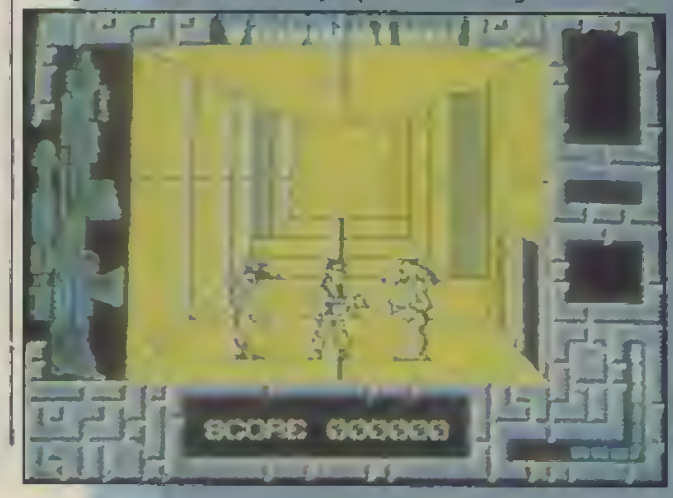
WAY back in issue 28 we reviewed *Green Beret*, marketed by Ocean under their Imagine label, and which received 88%. Jonathan Smith (*Mikie*, *Cobra*) provided the code way back in May 1986 but nowadays he's gone on to form Special FX (who ironically have signed a marketing deal with Ocean). This time around Paul Owens and Mark Jones – the team that brought you *Gryzor* – create the combat classic follow-up. ***Vindicator – Green Beret II***

► *Vindicator – Green Beret II*: the big sequel to the even bigger predecessor

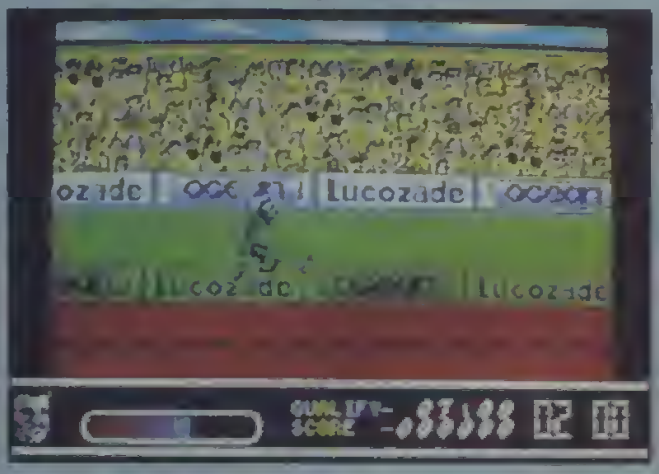
started life as an original idea. But as Ocean have learned over the years, an original idea doesn't necessarily guarantee high sales (*Head Over Heels* was a prime example when it failed to out-sell the licensed *Batman*, but picked up software awards right, left and centre – not least from the CRASH Readers who voted it Best Arcade Adventure 1987). Gary Bracey, Ocean's Software Manager, claims that a licensed game is almost always a guaranteed success: 'You only have to look at *Out Run* to see what I mean . . . It never got the great reviews but it sold very well'. That's why Ocean have decided to tag the all-important words '*Green Beret II*' on to the end of the title. People know the arcade game and/or have played the original computer version and can relate to the game – although they've no idea what it's about, the product's no stranger to them when they meet it on the shelves.

Vindicator – Green Beret II consists of three main stages. The first part of level one places you in the cockpit of a sophisticated fighter plane equipped with machine guns and grenades. As you fly over the vertically scrolling, monochromatic landscape, a wide range of enemies are encountered and must be destroyed or avoided. The worst of these are land-based pill-boxes which fire a constant stream of deadly dots – one hit from these and you're dead meat. When the 30+ screens have scrolled beneath you, the first part of level one ends. You then jump into your hi-tech tank and storm over the ground you have just flown over. You're no C5 driver in this little metallic monster, though: fences are trampled over and opposing tanks are blown into that scrapyard in the sky. As you trek through the wide ranging terrain of roads, warehouses, railway lines and Coronation Street-type houses you encounter many a menacing meanie. Approaching the end of the level means confrontation with an enormous alien as it crawls about the screen waiting to eradicate you with its killer claw, for this terrifying beast is a lobster of immense proportions. Enough well-placed bullets will not only provide you with lobster soup but also allow you to progress to the second level.

► A game's success often solely depends on the origin of its title



► Lucozade – now in computer games



All levels are completely independent in graphics and gameplay, each one requiring a different approach and individual skills. Level two places you within a labyrinth of corridors. As you start the level you are equipped with a power cartridge gun. You are, however, without any ammunition – this must be obtained by killing various insect-like monsters that guard doors throughout the maze. All the ammo cartridges are colour-coded for effectiveness; it's necessary to obtain the right colour cartridge for your gun, otherwise you're back to unarmed combat. When unarmed, you can use your rifle butt to smash your opponent about the head, stomach and legs. On the demise of your opponent, you may enter a door which leads to either a computer room or a storage room. When inside a computer room you attempt to solve a colour-coded conundrum. If successful, the screen displays a map of one of the four floors and the position of one of the 12 bomb components. When all 12 parts of the bomb have been collected you must find the exit lift, to the final level. Not much has been decided about this final stage, although it is intended to take the shape of a platform game.

SEOUL MAN

Ocean were one of the first people to produce a *Track And Field* type arcade game on home computer. *Daley Thompson's Decathlon* appeared way back in issue 10 gaining 82%, and its sequel *Daley Thompson's Supertest* obtained 76% one year after in November 1985 – Ocean also produced Konami's *Hyper Sports* (92%, Issue 19) under the Imagine label. And now Ocean have ***Daley Thompson's Decathlon 88*** awaiting release in September, around the time of the Seoul Olympics in Korea.

This third instalment of the Daley Thompson series is very similar in content to the other two, but many advances and improvements have been made over the original (programmed by Christian Urquart

► The weight-training stage of *Daley Thompson 88* – available in time for the Seoul Olympics

of *Xecutor* and *Hunchback* fame). The graphics – incidentally, Daley's coloured black this time – have been enlarged and are much more detailed and accurate, with some breathtaking animation. But *DTD 88* doesn't just contain the usual ten events; you also have to go through a rigorous training schedule before you start the strenuous events.

Training consists of two exercises: dumbells and sit-ups. As you lift the dumbells up and down or stretch your muscles with sit-ups, your energy (depicted by a bottle of Lucozade) increases. Don't let your training drop or else your manager, who parades the background fiddling with equipment, will get very annoyed. Fail to make the grade, and you stand no chance of competing in the track and field events.

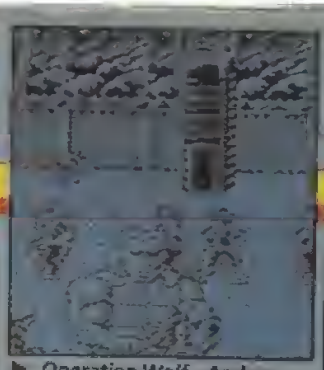
Ocean are planning a massive advertising campaign, possibly using Lucozade and Adidas on cross-promotion as they did with the *Platoon* computer game and video campaign.

CRY WOLF

One of the hottest games in the arcades at the moment is ***Operation Wolf*** – the Taito coin-op with built in machine gun. When Ocean gave Andrew Deakin (who co-programmed *Combat School* with Mike Lamb) the job of converting it, he was faced with a daunting task. How on earth was he going to convert all those massive characters, realistic backgrounds *and* include a steady scrolling play area? There's also the problem of transferring the thrill of using a machine gun to a less impressive joystick or EVEN keyboard! However, he overcame those troublesome trackballs in *Combat School* . . .

For those unfamiliar with *Operation Wolf*, it consists of six stages. All must be overcome before you can rescue the hostages and fly off in a Hercules aircraft. You are set down in the middle of a Communication Setup. Shoot a few knife-wielding maniacs and grenade a couple of tanks and it's on to the Jungle. Watch out for the pigs, and make sure to collect all the potion lying around – you'll need the extra energy! Then enter the Village. Women and children first, but be careful not to shoot them (it's a terrible temptation). The fourth stage, Powder Magazine, lets you stock up on ammo – you'll need it! Those who survive this far will feel the blood rush through their veins (or so I'm told) as they enter the Concentration Camp and release the hostages. All that's left now is to give the freed hostages safe passage to the plane waiting to take them to freedom. However, there's still one more helicopter to overcome . . .

► Pick up that potion and the jungle stage will be no problem



► *Operation Wolf* – Andrew Deakin's greatest achievement yet

market yet again. They gained the licence for ***RoboCop*** as soon as they heard it was a hit in the States, and have been sitting quietly on the project ever since. Unlike their previous film venture *RoboCop* will not be released at the same time as the video, but Ocean have a new twist to their film tale. After gaining the licence to the game they sub-licensed the product to Nintendo (the Japanese arcade producers) who are currently finishing a *RoboCop* arcade machine. When the arcade game is finished (and if it's good enough) Ocean will convert it to the home computer – thus saving them the trouble of coming up with an original idea. But looking at the content of the film, it's safe to say that it'll be a pretty violent affair

► 'Rescue The Hostages' Huh! Give us a chance

LICENCE TO KILL

Ocean's *Platoon* (93%, Issue 50) was so successful that they decided to venture into the film whatever they decide.

The news that everyone at Ocean's talking about presently is their most recent film licence, ***Rambo III***, just over two years after they released ***Rambo*** (79%, Issue 26).

The Konami arcade game ***Typhoon*** should also be coming out from Ocean soon. Newcomer, Steve Lamb (no relation to Mike) is programming this fast action coin-op conversion. ***Guerilla Wars***, the action packed coin-op from SNK, is released in July. Also from SNK is ***Victory Road***, the sequel to *Ikari Warriors*, but that won't be available until Autumn.

APPROXIMATE RELEASE SCHEDULE

Daley Thompson 88	mid-June
Guerilla Wars	end of July
Operation Wolf	September
Rambo III	December
RoboCop	December
Typhoon	July
Victory Road	August
Vindicator – Green Beret II	July

PREVIEW

GOING FOR GOLD

WITH the PC Show just around the corner (don't forget your full show guide supplement FREE with issue 56 of CRASH – plug department minion), it's not surprising that many companies are holding back their major games for a massive launch at the great computer users' get together on September 14-18. Even so companies like US Gold and GO! still have some very interesting products for those who can't wait until September.

Fans of *Nigel Mansell's Grand Prix* (70%, Issue 50) will immediately recognise the monochromatic graphics and first person perspective of US Gold's ***Road Blasters***. DJL Software (who programmed *Nigel Mansell's*) have been signed up by US Gold to convert Atari's coin-op classic. It's been hailed as '*Out Run* with guns', and it certainly looks like a great game for aggressive drivers. Starting off with a pathetic little gun on the bonnet, you can, through skill and diligence, build up your armoury to horrendous proportions – even cruise missiles are available! Avoid land mines and killer cars – it's just like real life! Let's hope the appeal lasts longer than *Out Run*'s.

► Hot property from US Gold

BAD DREAMS

Your dreams become your wildest nightmares in US Gold's ***Dream Warriors***. Enter a realm where fantasy IS reality. In the distant future the only battles are Dream Wars – contests for control of your mind. *Dream Warriors* combines arcade action with adventure as you attempt to destroy the blue Psy-Globes which contain the pods necessary to build dream images. When all three images are collected and formed you can escape to Ocular Realm through the black hole. The authors of *Captain America* (36%, Issue 50) provide the code.

Last month we previewed *Blood Brothers* (85%, reviewed in this issue) and this month we take a look at ***The Great Giana Sisters***. The German publisher **Rainbow Arts** and GO! combine to produce this great adventure inspired by the classic *Super Mario Bros*. As in the arcade hit you travel above and below ground, through caverns and over bridges. The Gianas' travels pit them against the deadliest and ugliest creatures you'll ever see. Although both the sisters carry a lethal head-butt. (Nuff said!)

Capcom's ***Black Tiger*** is also coming out on the GO! label. More news soon . . .

► Sweet little sisters from Rainbow Arts/GO!

SUMMER SPORTS

What with the 1988 Seoul Olympics just around the corner everyone's jumping on the sporting bandwagon. **Ocean** have ***Daley Thompson 88*** and now **Tynesoft** have just announced the imminent release of ***Summer Olympiad*** – the follow-up to their surprisingly successful ***Winter Olympiad 88*** (44%, Issue 49). The summer version contains skeet shooting, fencing, high diving, triple jump, hurdles and an opening ceremony. Tynesoft expect an August release at £9.95 on cassette.

Epyx – the guys that brought us the fabulous *Winter Games* (93%, Issue 26) – not only have ***Impossible Mission II*** waiting for release but also ***Games: Winter Edition***. This sporting bonanza features the luge, figure skating, speed skating, downhill, slalom, ski jump and cross-country. All these great events should be ready for August.

MORE SPORTS!

Peter Beardsley's International Football is now on the horizon, and should be out in time for the European Championships in Germany. **Grandslam** proclaim that *PBIF* 'faithfully recreates an European International Tournament' – in other words, England are *always* the best team but *never* win. The programmers of *Gary Lineker's Superstar Soccer* are behind it all. Stephen Hall, Grandslam's Managing Director, has assured CRASH that it's much better than Gremlin's game – *phew!*

Talking of Gary Lineker (which we were, if you remember) – he's got another game coming out soon(ish). Gremlin Graphics are, once again, behind it all. ***Gary Lineker's Super Skills*** consists of five tests of footballing prowess: shooting, sprinting, heading, circuit training and dribbling.

PBIF lets you take part in the on-field action, *GLSS* takes you training before the match and *FMII* (that's *Football Manager II*) allows you to manage a team. That's enough about football games for one month . . .

► *Black Tiger* from Capcom/GO!

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GOGGLE!

PICTURE PREVIEWS

DOMINIC HANDY

▲ *Field and Caine in Surrender*

WELL, I hope you're all keeping up with the terrific flood of video releases lately. July is no exception to this trend: RCA/Columbia, who released the amazing *Best Seller* last month, have another couple of suspense stories for this month.

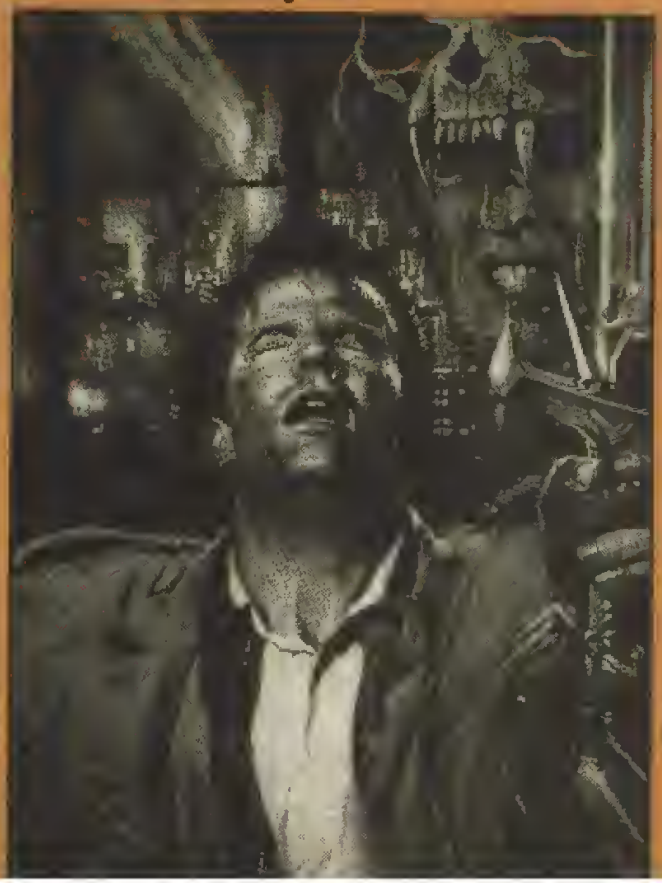
Kevin Costner, currently starring in the *The Untouchables* (CIC Video, 18), joins forces with **Gene Hackman** (*The French Connection, Target*) and **Sean Young** (*Blade Runner, Dune*) in ***No Way Out*** (RCA/Columbia, 15) – a political thriller of immense proportions. As a young Lieutenant Commander in the US Department of Defence, Costner awkwardly becomes entangled in a story of deception and lies within the highest echelons of power at the Pentagon. When Costner's secret girlfriend (Young) is murdered he is appointed as the investigating officer. However he knows that she was also an 'escort' for the Secretary of Defence (Hackman) – his boss – and it was in fact he who killed her. As Costner digs deeper into the investigation all the clues start to point to him, but the Department want the murder pinned on a mysterious Soviet agent called Yuri. It's ingenious and enthralling and well worth a look!

RCA/Columbia's second release on July 8 is **David Mamet**'s ***House Of Games*** (RCA/Colombia, 15). Mamet's previous credits include screenwriter on such blockbusters as *The Verdict* and *The Untouchables*. *House Of Games* is the strange story of the art of trickery and deception amongst a small collection of dedicated con-men. Dr Margaret Ford (**Lindsay Crouse**) leads a pretty boring life as a top psychiatrist, so in an attempt to bring some excitement into her life she involves herself in the life of one of her clients (**Jon Mantegna** – *The Three Amigos, The Money Pit*). Slowly she gets more embroiled in the absorbing, but treacherous, art of trickery. *House Of Games* is full of suspense right up to the last frame – and very hypnotic!

Warner Home Video – who currently have *Full Metal Jacket* (18) on release – have a right mixture of videos ready to be launched on June 27. **Michael Caine** (*Mona Lisa, Hannah And Her Sisters*) and **Sally Field** (*Norma Rae, Places In The Heart*) star alongside each other in ***Surrender*** (Warner, PG) – a mediocre comedy about two people battling against each other and their own emotions as they fall hopelessly in love. Warner also have **Robert Ludlum**'s (writer of *The Holcroft Covenant*) latest thriller, ***The Bourne Identity***, starring **Jaclyn Smith** (*Charlie's Angels*) and **Richard Chamberlain** (*The Thorn Birds, Shogun*). I haven't seen it myself, although I have my doubts whether the book-based super thriller can be transferred to the small screen – explosive action and screaming suspense are guaranteed, though.

Lastly from Warner in June comes ***Disorderlies*** – nothing but guaranteed mayhem as the infamous hip-hop trio **The Fat Boys** meet **Ralph Bellamy** (*Trading Places*).

▼ *Highlander* – now on budget video



Warner also have a flourishing sell-through market in which many top videos have currently been released, all at £14.99. **Arnold Schwarzenegger** fans are catered for with the long-awaited release of ***Conan The Barbarian*** (15). There are also such delights as **Ridley Scott**'s (*Blade Runner*) ***Legend*** (15), a mystical fantasy fairytale for adults – starring **Tom Cruise** (*Top Gun, The Color Of Money*) and **Mia Sara** (*Ferris Bueller's Day Off*); the superb ***Highlander*** (15) starring **Christopher Lambert** (watch it on a stereo video for a real treat), plus two recently TV broadcast films: **Terry Gilliam**'s ***Brazil*** (15) and **Rutger Hauer** in ***The Osterman Weekend***. But the pick of the bunch has to be ***The Hitcher*** (18). **C Thomas Howell** (*Soul Man, Secret Admirer*) plays a young driver who picks up a stranger (**Rutger Hauer** – *Blade Runner, Wanted: Dead Or Alive, Flesh + Blood*) on a lonely desert road, but soon finds himself on a journey he'll never forget. **Jennifer Jason Leigh** (*Flesh + Blood*) stars as an innocent bystander in this suspenseful thriller in the vein of *Diner* (also available on budget video).

This month's award for Title Of The Month goes to New World Video for ***Nice Girls Don't Explode*** (PG). Six-year-old April lives in a quiet country house, where, as usual, she is tied up outside to ensure she doesn't stray. So when her friend Andy arrives and unties her, Mom isn't very happy. On her return she explains to April her unique 'gift' – whenever April meets a member of the opposite sex she has a

tendency to start fires, telekinetically. The years pass and finally April prepares for her first date – packing a fire extinguisher at her mother's insistence. Needless to say the evening is a flop. April responds to his advances by starting a series of fires – even a goodnight kiss leaves his car in a ball of flames. Clearly this is one 'gift' she could do without.

Cheech and Chong (*Up In Smoke* – the biggest grossing comedy of 1978) used to be an infallible comedy partnership, but now Cheech has branched away from the pot-smoking Hispanic we all know and love into a new brand of whacky comedy in ***Born In East LA*** (CIC Video, 15), released on July 8. Rudy (Cheech) is arrested as an illegal alien when he goes to visit his cousin Javier and is subsequently thrown over the border to Tijuana in Mexico. Rudy looks on the positive side and gets a job with an American hustler called Jimmy, but also falls for a refugee from Salvador. All the while he is trying to get extra money to pay for his trip back to East LA. The film contains a few amusing sketches – especially when Rudy tries to teach some Chinese immigrants his own brand of East LA-glese – but probably only one for the fans of Cheech.

Back to budget videos. One of the most popular science fiction series of recent years ***Planet Of The Apes*** (CBS/Fox, PG) is now available on video in five volumes. The first volume features **Charlton Heston**, as Taylor an astronaut stranded in the future, who is hunted by an army of apes but must put his trust in a kindly chimpanzee scientist (**Roddy McDowall**). It's also got a fabulous ending!

The second volume picks up where the film left off with a different astronaut (this time played by **James Franciscus**) who smashes through the time barrier in search of Taylor. If you've never seen them, they're well worth watching for a whole new perspective of the future. McDowall appears in all the volumes, in one guise or another.

CIC Video have finally set the release of ***ET – The Extra Terrestrial***. The **Spielberg** tear-jerker is set for simultaneous worldwide release on October 28. But no TV, cable or satellite plans have been made for the immediate future.

The release date of ***Bigfoot And The Hendersons*** (CIC Video, PG) has been put back to July 22, so be sure to be first through the door when Harry enters your local video shop.

▲ *Planet Of The Apes* – courtesy of CBS/Fox

▲ *ET – The Extra Terrestrial* coming worldwide in October

PEDESTRIAN PICTURES

HAVE YOU EVER walked down the street and past a house with the television blasting out and wished you could see the picture? Or perhaps gone out shopping and forgot to set the video to record Neighbours? Or even hired a video and just had no time to watch it? Well now, thanks to the people that pioneered the Beta video format, all your problems will be solved. The Japanese company **Sony** have just unveiled the personal video watchman. The device, which is only the size of a paperback book, allows the owner to watch videos (or television broadcasts) whilst walking down the high street.

The latest electronic gadget to come from Japan contains a 3-inch TV with liquid crystal display and a 8mm format video player. This could mean that the video format, launched by Sony to a mixed reception, could now take off in the UK. The first NTSC version will go on sale in Japan from August 21 (at the equivalent of just over £500), a similar version will then be launched in the United States, with the UK (PAL system) version hopefully available by the end of the year.

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THE JULY CHARTS

HOTLINE TOP 20

1	(2)	RENEGADE	IMAGINE
2	(1)	MATCH DAY II	OCEAN
3	(15)	CYBERNOID	HEWSON
4	(9)	OUT RUN	US GOLD
5	(13)	ELITE	FIREBIRD
6	(3)	EXOLON	HEWSON
7	(5)	DRILLER	INCENTIVE
8	(▶)	TARGET RENEGADE	IMAGINE
9	(8)	COMMANDO	ELITE
10	(4)	HEAD OVER HEELS	OCEAN
11	(12)	ENDURO RACER	ACTIVISION
12	(7)	ZYNAPS	HEWSON
13	(19)	PAPERBOY	ELITE
14	(▶)	PLATOON	OCEAN
15	(6)	GAUNTLET	US GOLD
16	(▶)	ATF	DIGITAL INTEGRATION
17	(14)	MATCH DAY	OCEAN
18	(18)	STARGLIDER	FIREBIRD
19	(16)	FLYING SHARK	FIREBIRD
20	(10)	THUNDERCATS	ELITE

ADVENTURE TOP 10

1	(1)	THE HOBBIT	MELBOURNE HOUSE
2	(5)	LORDS OF MIDNIGHT	BEYOND
3	(3)	STORMBRINGER	M.A.D.
4	(2)	SPELLBOUND	M.A.D.
5	(7)	THE PAWN	RAINBIRD
6	(–)	RED MOON	LEVEL 9
7	(4)	KNIGHT TYME	M.A.D.
8	(6)	KILLED UNTIL DEAD	US GOLD
9	(–)	RIGEL'S REVENGE	FIREBIRD
10	(9)	HEAVY ON THE MAGICK	GARGOYLE GAMES

STRATEGY TOP 10

1	(1)	VULCAN	CCS
2	(2)	LORDS OF MIDNIGHT	BEYOND
3	(3)	ARNHEM	CCS
4	(4)	DESERT RATS	CCS
5	(5)	DOOMDARK'S REVENGE	BEYOND
6	(8)	TOBRUK	PSS
7	(9)	BATTLE OF BRITAIN	PSS
8	(7)	THEATRE EUROPE	PSS
9	(6)	REBELSTAR RAIDERS	FIREBIRD
10	(10)	THEIR FINEST HOUR	CENTURY HUTCHINSON

VIDEO TOP 10

1	(7)	PLATOON	RCA/COLUMBIA
2	(4)	LETHAL WEAPON	WARNER
3	(9)	ALIENS	CBS/FOX
4	(1)	ROXANNE	RCA/COLUMBIA
5	(8)	A NIGHTMARE ON ELM ST 3	WARNER
6	(6)	THE LIVING DAYLIGHTS	WARNER
7	(3)	HELLRAISER	NEW WORLD
8	(2)	RADIO DAYS	RCA/COLUMBIA
9	(▶)	JUMPIN' JACK FLASH	CBS/FOX
10	(5)	ANGEL HEART	GUILD

You now have FOUR charts in which to vote. For games featured in the main software review section vote in the HOTLINE chart. Games covered in Samara's Adventure Trail should be voted for in the ADVENTURE chart. And those games requiring specialised thought and planning (like war games) are voted for in the STRATEGY chart. Also, all your favourite videos can be voted for in the VIDEO chart – old and new, borrowed, but NOT blue!

Just fill in the appropriate form and send your votes off to **CRASH HOTLINE CHART, CRASH ADVENTURE CHART, CRASH STRATEGY CHART** and **CRASH VIDEO CHART: *PO Box 10, Ludlow, Shropshire, SY8 1DB.***

DON'T FORGET, every month we'll pick out five winners for each chart. The first will receive £40 worth of software of their choice, a CRASH hat and a CRASH T-shirt. The four runners-up will each get a CRASH hat and a CRASH T-shirt – a total of 20 winners. All you have to do is walk to the post box . . .

CHART VOTING FORMS ..... page 106

WINNERS

Scott Sutherland *from Glasgow was first out of the HOTLINE hat this month – and gets £40 worth of software for his trouble. The four runners-up are* ***M J S Needs*** *from Shrewsbury;* ***S Drewry*** *of Brentwood;* ***Gary Liffen*** *from London E11 and* ***Gerald Morgan*** *of East Molesey.*

This month's ADVENTURE chart winner is ***R Stevens*** *from Saundersfoot in Dyfed, Wales. His four runners-up are* ***James Rook*** *from Sheffield;* ***Carlos Manuel Monteiro Vilela*** *(Cor, what a mouthful!) from Lisbon in Portugal;* ***Mat Callard*** *of Leeds and* ***A Morgan*** *from Fakenham in Norfolk. CRASH hats and T-shirts to all of them.*

Adam Fletcher *from Cheltenham wins the STRATEGY chart's £40 worth of software, and a CRASH hat and T-shirt. The four runners-up also get hats and T-shirts, they are* ***Damien P Collier*** *from Leeds;* ***Adam Wilde*** *of Countesthorpe;* ***Andy King*** *from Chatham and* ***Mark Parry*** *from the beautiful town of Deal in Kent.*

The first ever winners of the CRASH VIDEO chart are as follows . . . ***Jarrod Crouch*** *from Calmore gets a terrific £40 worth of computer software (not forgetting that much-sought-after CRASH hat and T-shirt). The four runners-up are* ***Mat Cullard*** *of Pudsey;* ***Christopher Pritchard*** *from Swansea;* ***Colin Price*** *of Halesowen and finally* ***Paul Dungey*** *of Penryn in Cornwall. CRASH hats and T-shirts to those lucky four people.*

TAKE 'EM ALL ON...

IT'S THE ONLY WAY TO LIVE!

Screen Star

Target Renegade is hugely entertaining and ample justification for a sequel ...it develops the theme and develops the game play no end on the original...Each man is four sprites ...all beautifully drawn with great comic touches. The dog is quite wonderful. **Commodore User**

PCW GAME OF THE WEEK

Target Renegade has the added essence of variety, which is not to be found on other games of this kind. Fear not, this is well worth the readies. **PCW Game of the week**

TARGET: RENEGADE

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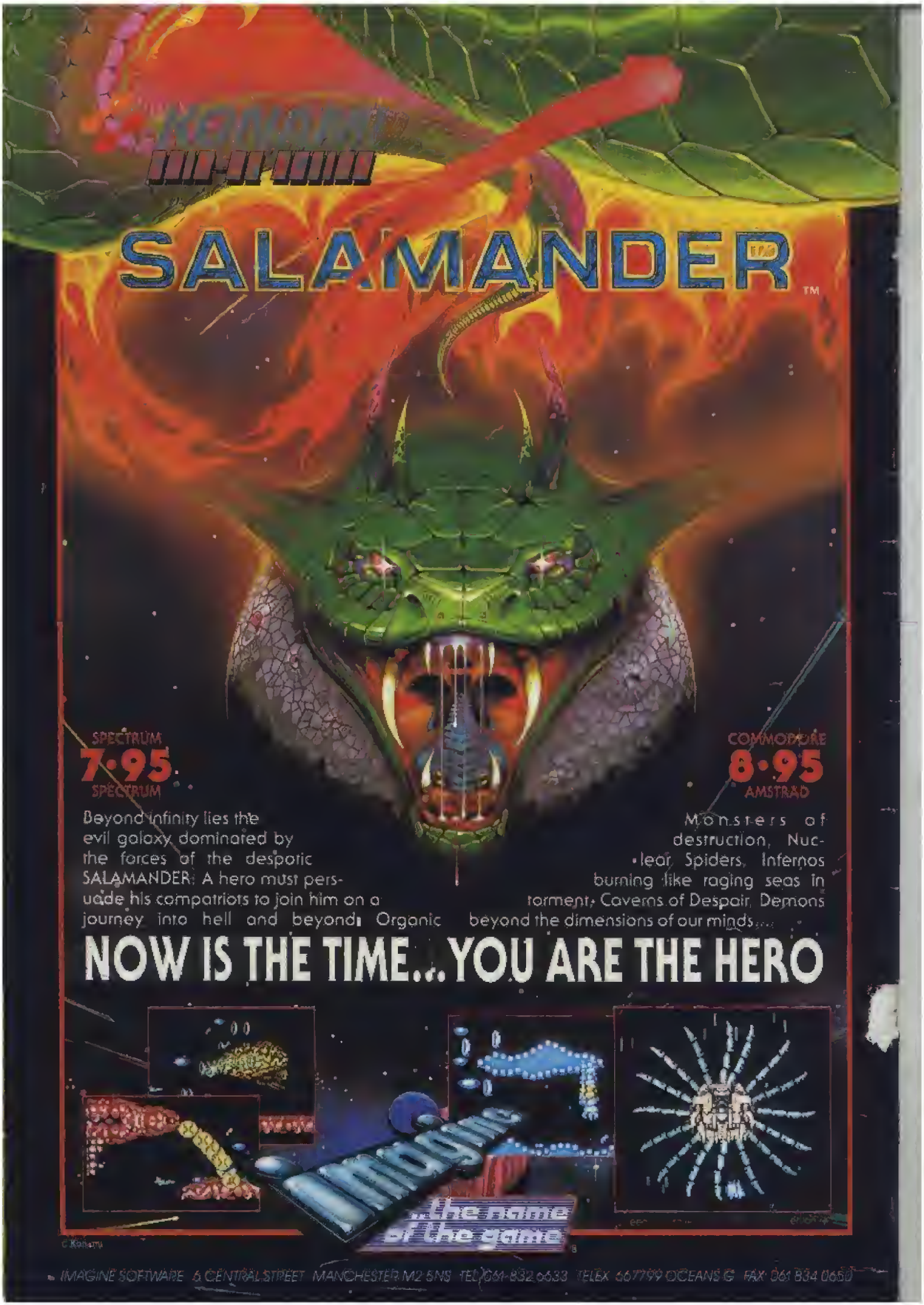
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